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Variances
Administrative Permits
Annexations
Boundary Adjustments

February 29, 2012

Monica Bilodeau
County of San Diego
Department of Planning and Land Use
5201 Ruffin Road, Suite B, 92123

Subject: Former TM 5254 and current TPM 21193 and BA12-0009

The project proposes a Minor Subdivision (4 parcels and a remainder) and a Boundary Adjustment (4 parcels) to be filed concurrently on the subject property to the north of the Minor Subdivision and under the same ownership. The attached study reviews both proposals. Originally the proposed project was submitted as TM 5254. This TM was withdrawn and a new application for TPM 21193 and BA 12-0009 was submitted for review and processing by the County of San Diego.

Boundary Adjustment (BA 12-0009) reconfigures four existing parcels created per TPM14192 into 42.83, 46.75, 30.90 acres and the southern parcel is 110.03 acres. TPM 21193 proposes 4 parcels and a remainder on the southern parcel. APN 102-102-07 was included in the boundary of TM 5254 but it has been removed from the current proposal.

The pad locations and environmental impact review analyzed in this report for TM 5254 has not significantly changed with this new application.

Sincerely,

Ivan R. Fox PE

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A Traffic Impact Study

For

Chandler Ranch (TM 5284 RPL) A Residential Project

In the De Luz Area of Fallbrook

Prepared For The County of San Diego

And

Jeffrey and Charlotte Chandler

On

June 30, 2010

By

Federhart & Associates
2845 Nimitz Blvd. #G
San Diego, CA 92106
Phone 619-226-0625

An Executive Summary Of The Traffic Impact Study
For The Chandler Ranch (TM 5284 RPL)

The newest Chandler Ranch project is only for seven estate residential lots.

The development of the Chandler Ranch will not have any direct or considerably significant cumulative traffic impacts.

The project will contribute to the County TIF program for its seven units in order to mitigate its minor cumulative traffic impacts.

Based on speed studies made for this TIS, the existing sight distance at the project Gate, and at the Harris Trail / De Luz Road intersection, are adequate using Caltrans and AASHTO standards.

The Chandler Ranch project will improve traffic safety for all motorists traveling Harris Trail now and in the future, by installing warning signs and a double yellow centerline with raised reflective markers, from De Luz Road to the north edge of the project.

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List of Tables And Figures

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TRAFFIC AND PARKING STUDIES

JF611

June 30, 2010

A Traffic Impact Study for TM 5284 RPL - Chandler Ranch
A Residential Development North of Fallbrook

Introduction

In late February 2004, this consultant was retained by the project engineer to conduct a traffic impact study for a planned residential estate project lying north of Fallbrook. That study is now complete and this report will document its findings. Figure 1 locates the project.

The Project

The project is to be located on about 250 acres. Today the project is a large, producing, Avocado ranch. The plan is to divide the grove into 7 estate lots with all of them continuing to produce avocados. Each lot will be a minimum of 20 acres net.

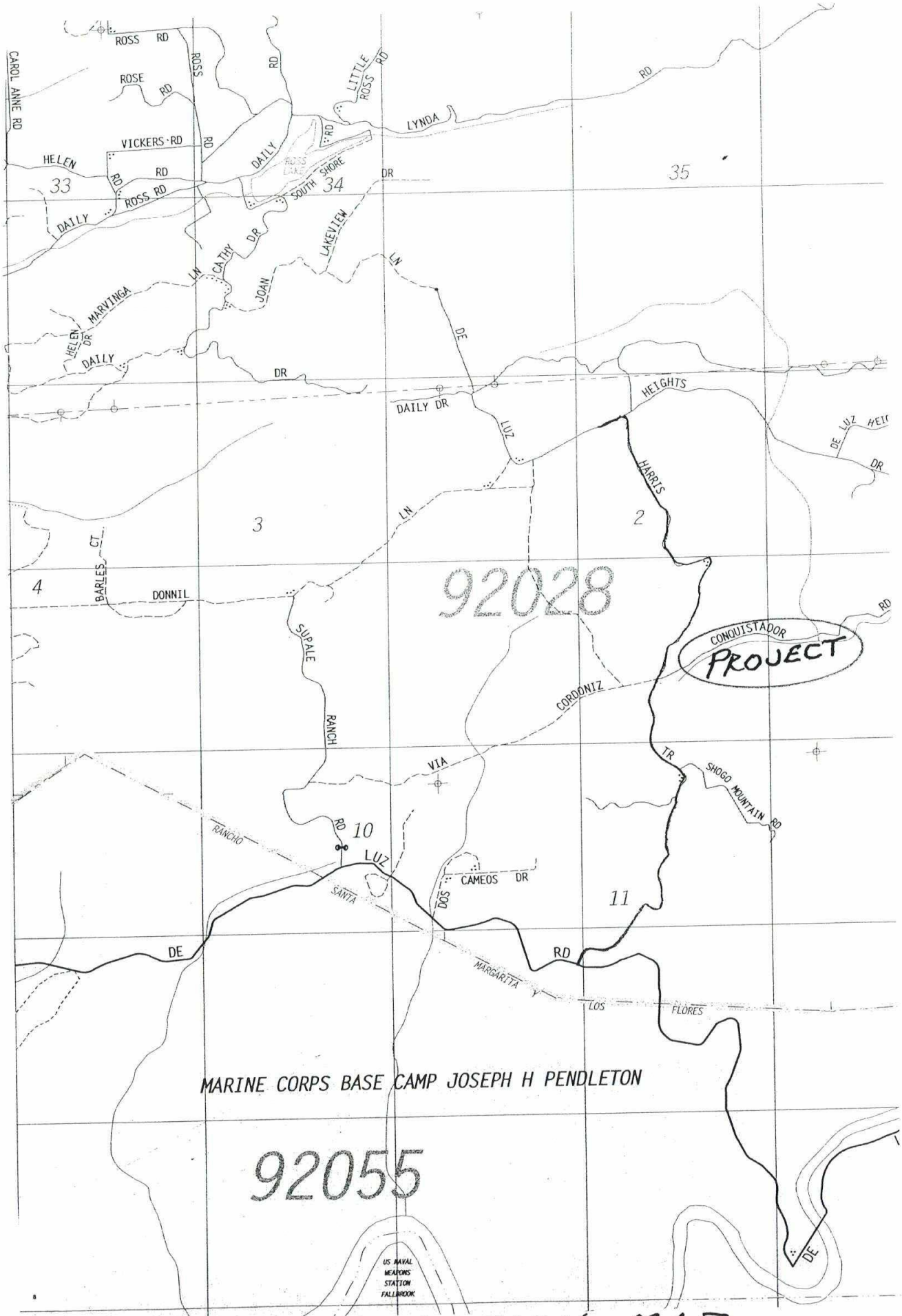
The project will be a gated, private community. Most of the roadways shown on the Site Plan (Figure 2) are already constructed and paved and have been used as access roads to the avocado trees. With completion of the project, all roadways will have at least 24 feet of pavement width and conform to County private road standards.

As can be seen on Figure 2, Conquistador Road, crosses near the north edge of the project from Harris Trail to the east edge of the project past Lot 7. Part of Conquistador Road is a main roadway for access to the project but it is also an access road for the Fallbrook Public Utility District, which has a pipeline in the easement. Conquistador is paved today to just past the east edge of Lot 7, and is unpaved to the east but does not cross Sandia Creek to reach Sandia Creek Drive.

Existing Circulation

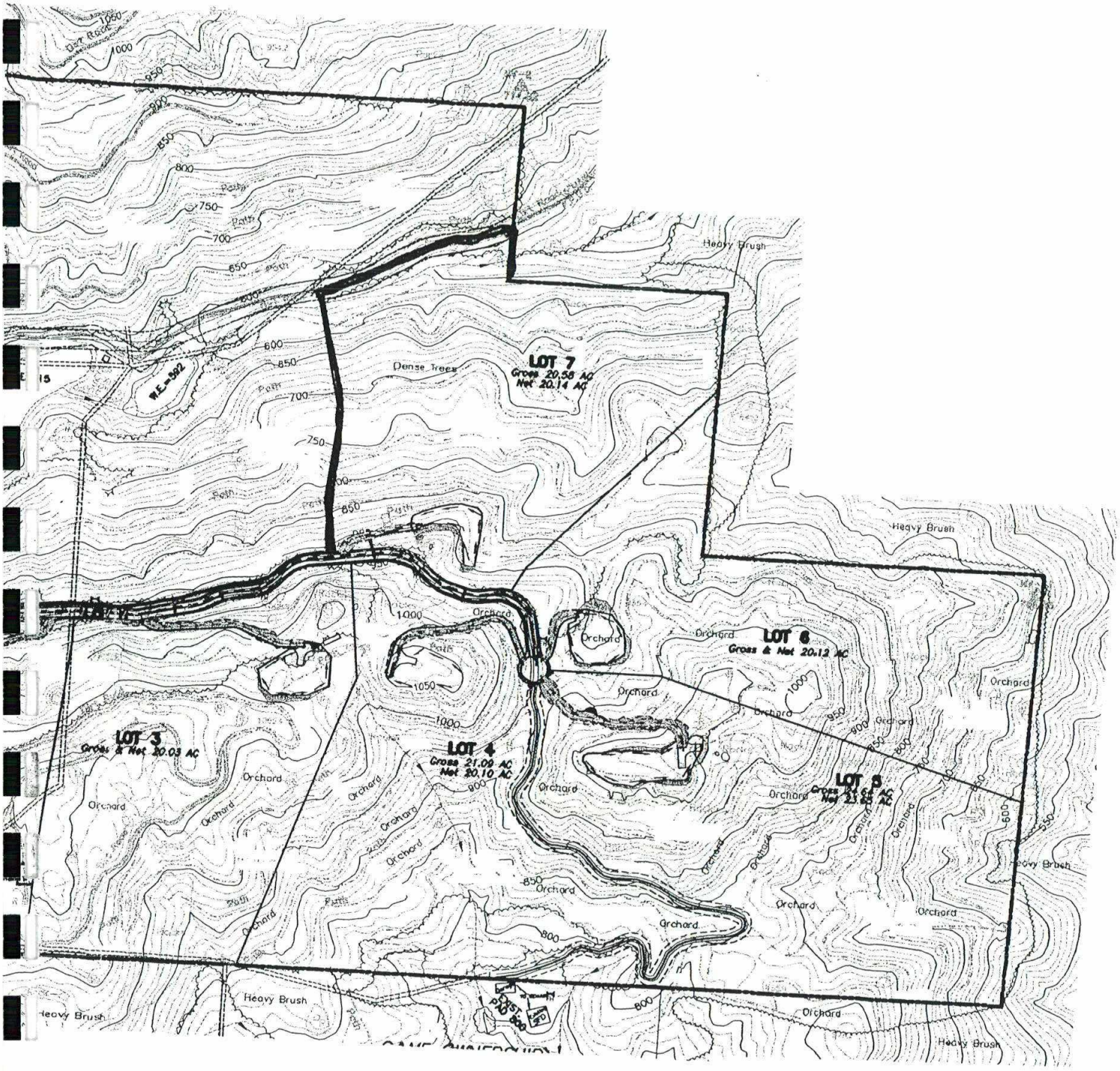
The projects access from Mission Road in Fallbrook, is via De Luz Road. De Luz Road is mainly a 24 foot wide pavement with a double yellow centerline its full length, and white edge lines about 22 feet apart, thus creating two 11 foot wide lanes with about 1 to 2 feet behind the edge lines where there are often berms to control drainage. There are few shoulders but occasionally there are gravel tournouts.

/



PROJECT LOCATION MAP
(TM 5284 RPL)

FIGURE 1


LOT 7
Gross 20.58 AC
Net 20.14 AC
LOT 6
Gross & Net 20.12 AC
LOT 5
Gross 21.64 AC
Net 21.25 AC
LOT 4
Gross 21.09 AC
Net 20.10 AC
LOT 3
Gross & Net 20.03 AC
Dense Trees
Heavy Brush
Orchard
Path
1000
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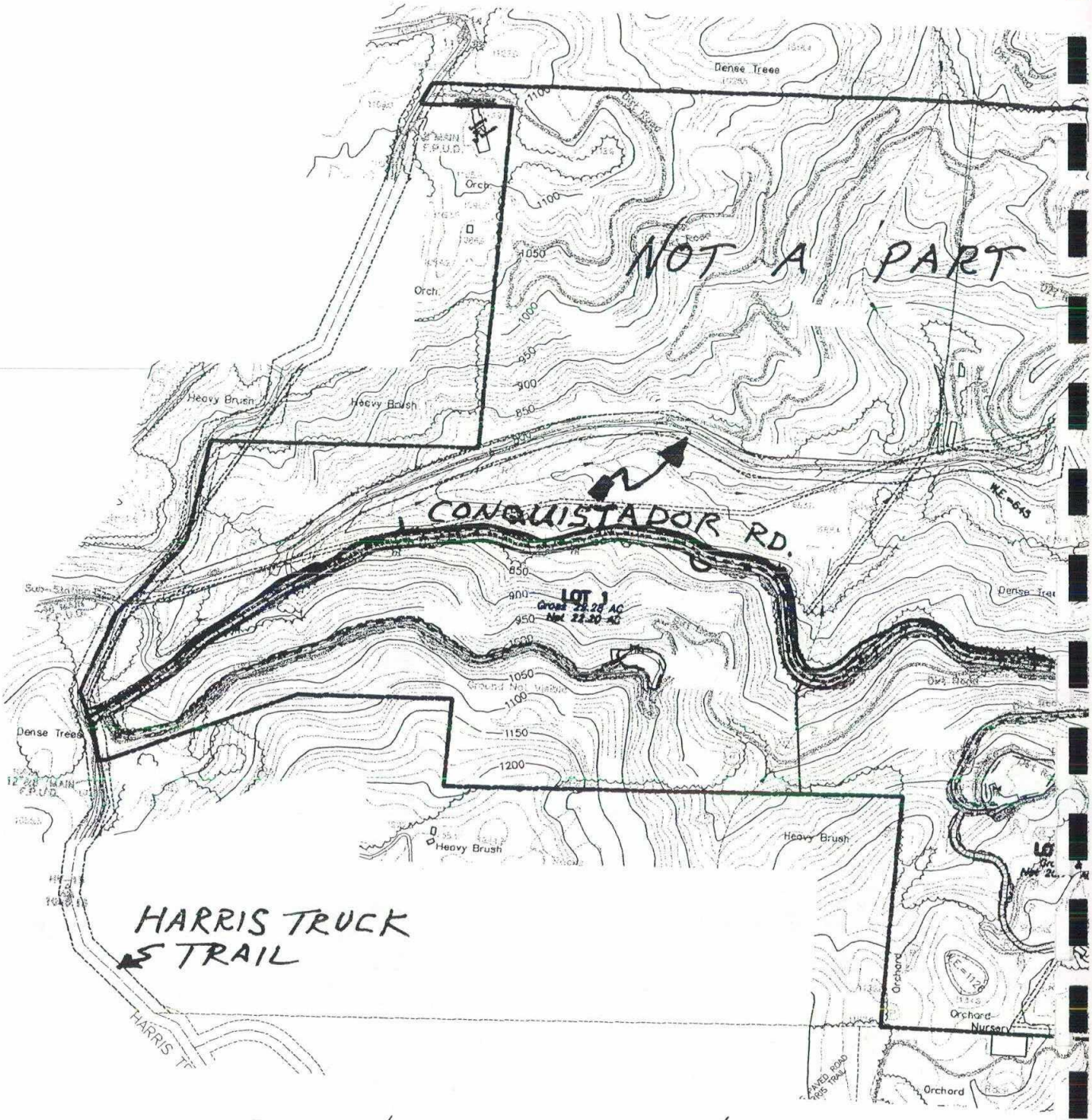


CHANDLER RANCH

TM 5284 RPL

SITE PLAN

JUNE 2010

FIGURE 2

De Luz Road does not have a posted speed limit but because of curves and grades has some 20 and 25 MPH advisory speed signs over its length. Vehicles traveling this roadway were observed to travel slowly and carefully in this scenic, rural area of steep hills, deep valleys, canyons, and waterways. The two worst curves (20 MPH advisory) are at each end of the bridge over the Santa Margarita River. De Luz Road has stop signs facing the side streets at both Sandia Creek Road and Harris Trail. De Luz is the through road at both intersections (See Map in Appendix A 1).

Harris Trail provides access from the project to De Luz Road. Harris Trail is maintained by the County of San Diego, but assessments to area landowners pay for it. Harris Trail is County Service Area Road #80 (CSA 80) from De Luz Road to the north edge of the project (1.77 miles). Harris Trail is similar to De Luz Road with curves and grades and its pavement is 22 feet wide but has no marked centerline or edge lines nor traffic signs of any kind. The intersection sight distance at Harris Trail/De Luz will be addressed later in this report in the sight distance section.

Existing Traffic

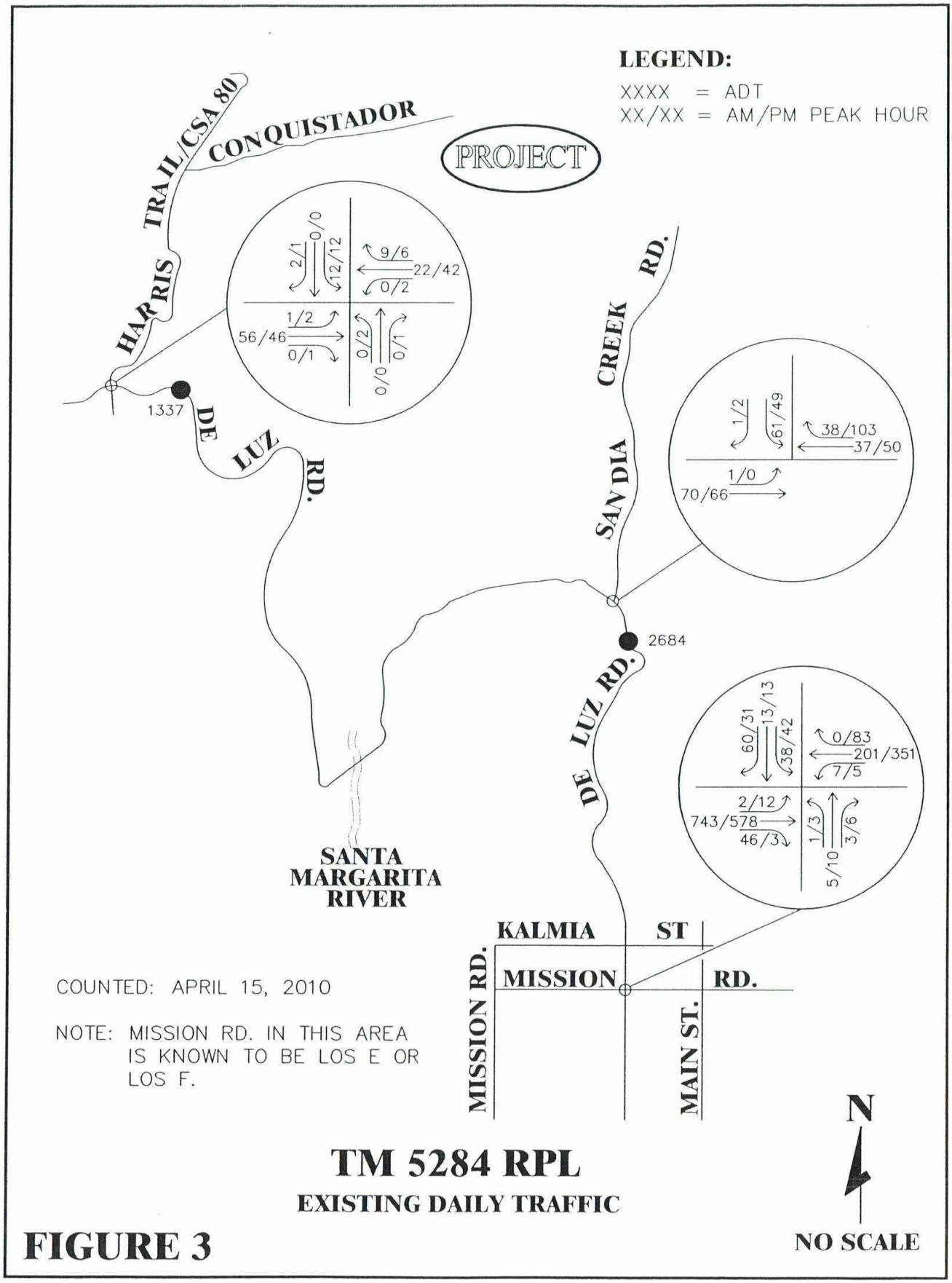
As part of this study, this consultant had Turning Point make 24-hour traffic counts of De Luz Road just east of Harris Trail and again just south of Sandia Creek Drive. Also, peak hour turning movement counts were made at Harris/De Luz, Sandia Creek/De Luz and Mission/De Luz (in Fallbrook). Figure 3 shows these counts made on 4/15/10 by Turning Point. The counts themselves are in the Appendix (A2-A9). Note on Figure 3 that De Luz Road south of Sandia Creek Drive has 2684 ADT. This checks out with a San Diego County traffic count, which shows 2620 ADT in 2002. Thus, De Luz Road has had no significant volume changes in many years.

Using the volumes of Figure 3 and the intersection geometrics of Figure 4, this consultant made AM and PM, delay and Level of Service (LOS) calculations for the three important intersections shown. Table 1 below shows the results of these existing traffic (the "before" project) calculations while the Appendix (A10-A13) contains the calculation sheets.

Table 1
Existing Delays And LOS's

	AM			PM		
	Delay		LOS	Delay		LOS
Intersection	Average	Worst		Average	Worst	
3. De Luz / Harris Trail	1.3	9.1	A	1.6	9.3	A
2. De Luz / Sandia Creek	2.9	9.7	A	1.9	9.9	A
1. De Luz / Mission	16.8		B	14.1		B

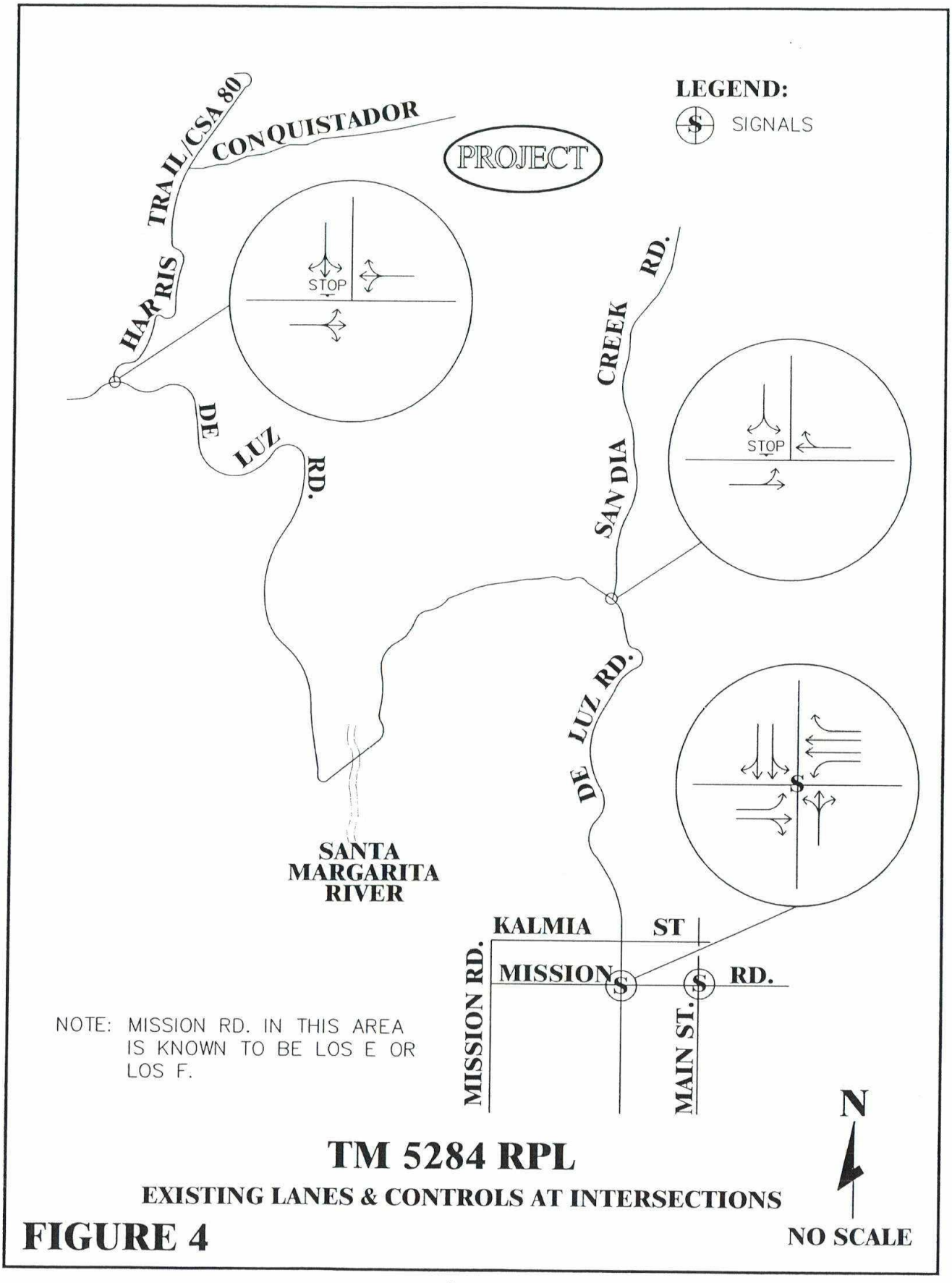
As shown above, a very good LOS exists at all three intersections. However, as observed in the field, the volumes at De Luz/Mission and thus the delays, would be higher on Mission if there was not a back up on Mission from the Main Street signal to the east. The problem at Main Street is the large number of westbound left turns from Mission to Main which forces eastbound Mission to wait and limits the number of eastbound vehicles that can clear De Luz.



TM 5284 RPL

EXISTING DAILY TRAFFIC

FIGURE 3



TM 5284 RPL

EXISTING LANES & CONTROLS AT INTERSECTIONS

FIGURE 4

The two ADT's shown on Figure 3 can be compared to County Standards for LOS's (See Appendix A14) for Rural Mountain roads. This standard shows that the 1372 ADT on De Luz just east of Harris Trail equates to LOS A (max of 1900) while just south of Sandia Creek the existing 2684 ADT equates to LOS B (max of 4100).

As noted on the bottom of Figure 3, Mission Road in this area at the present time is at LOS E or F. This means that under the new County of San Diego, "Guidelines for Determining Significance" modified February 19, 2010, a project will have a significant traffic impact on Mission Road if it adds 200 daily trips if the LOS is E, or 100 daily trips to the LOS F sections of Mission Rd. (See A15).

Project Traffic Generation

Using standard SANDAG traffic generation rates for Estate Residential Homes, Table 2 below shows the project estimated traffic for the 7 new, lots that are not counted in the existing traffic. The traffic to and from the existing avocado grove operations, as well as the future grove operations, is already in the existing traffic of Figure 3. It is not additive to Table 2.

Table 2
TM 5284 Project Traffic Generation

				Peak Hours*			
		ADT	Two Way	AM		PM	
Land Use	Units	Rate	ADT	In	Out	In	Out
Estate Residential	7	12	84	3	5	7	3

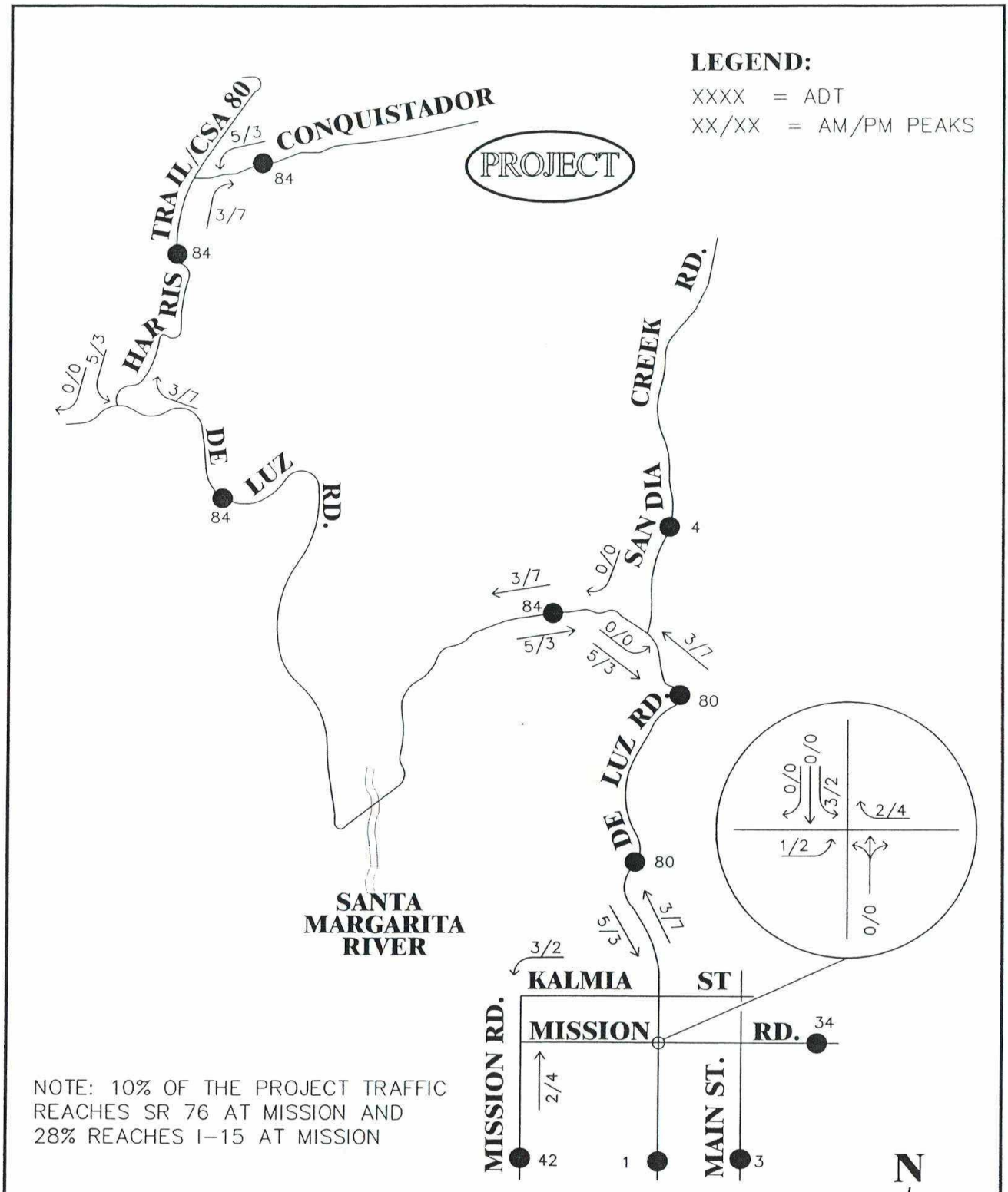
*At 8% of ADT split 3:7 in AM, and 10% of ADT split 7:3 in PM

Project Traffic Distribution

In order to quantify a projects traffic impact on the various intersections and roadway segments, in addition to the generated traffic shown in Table 2, it is also necessary to know how it is distributed in the various directions. In this case, this consultant obtained a Series 10, year 2005, single zone traffic assignment from SANDAG's Cities / County traffic forecast. Using this single zone, Figure 5 was derived to show the directional distribution of the projects traffic. Not shown on Fig. 5, is the % of project traffic at Mission and Rte 76 (10%) and at Mission and I-15, (28%).

Project Traffic Assignment

Using the project traffic from Table 2 and the distribution just shown on Figure 5, a traffic assignment was conducted for both the projects ADT (daily traffic) and its AM and PM peak hour traffic. Figure 6 shows the projects traffic assignment. Not shown on Figure 6 is the project ADT at Mission/Rte 76 (9 ADT) and at Mission/Interstate 15 (24 ADT). Note on Figure 6 that with only 42 or 34 project ADT's on Mission Road, the project nowhere will have a direct traffic impact on Mission Road as per the Guidelines on A15.



TM 5284 RPL

PROJECT ONLY TRAFFIC ASSIGNMENT

FIGURE 6

Project Traffic Analysis

By combining the existing traffic of Figure 3 with the project traffic of Figure 6, the combined traffic of Figure 7 was derived. This traffic was then used in the LOS calculations to derive the delays and LOS's just like was done for the existing traffic shown in Table 1. The difference between the quantities derived in the before and after calculations at each intersection, is the impact on delays and LOS's due to the project. Table 3 below makes the comparison of the before and after delays and LOS's. (See Appendix A16 – A19 for calculations).

Table 3

Intersection Comparison of Delays And LOS's Before And After Project

		Existing Traffic		Existing + Project		Delay	
Intersection		Delay	LOS	Delay	LOS	Change	Sig?
3. De Luz & Harris Trail							
	AM	9.1*	A	9.2*	A	+0.1	NO
	PM	9.3*	A	9.4*	A	+0.1	NO
2. De Luz & Sandia							
	AM	9.7*	A	9.8*	A	+0.1	NO
	PM	9.9*	A	10.0*	B	+0.1	NO
1. De Luz & Mission							
	AM	16.8	B	17.0	B	+0.2	NO
	PM	14.1	B	14.3	B	+0.2	NO

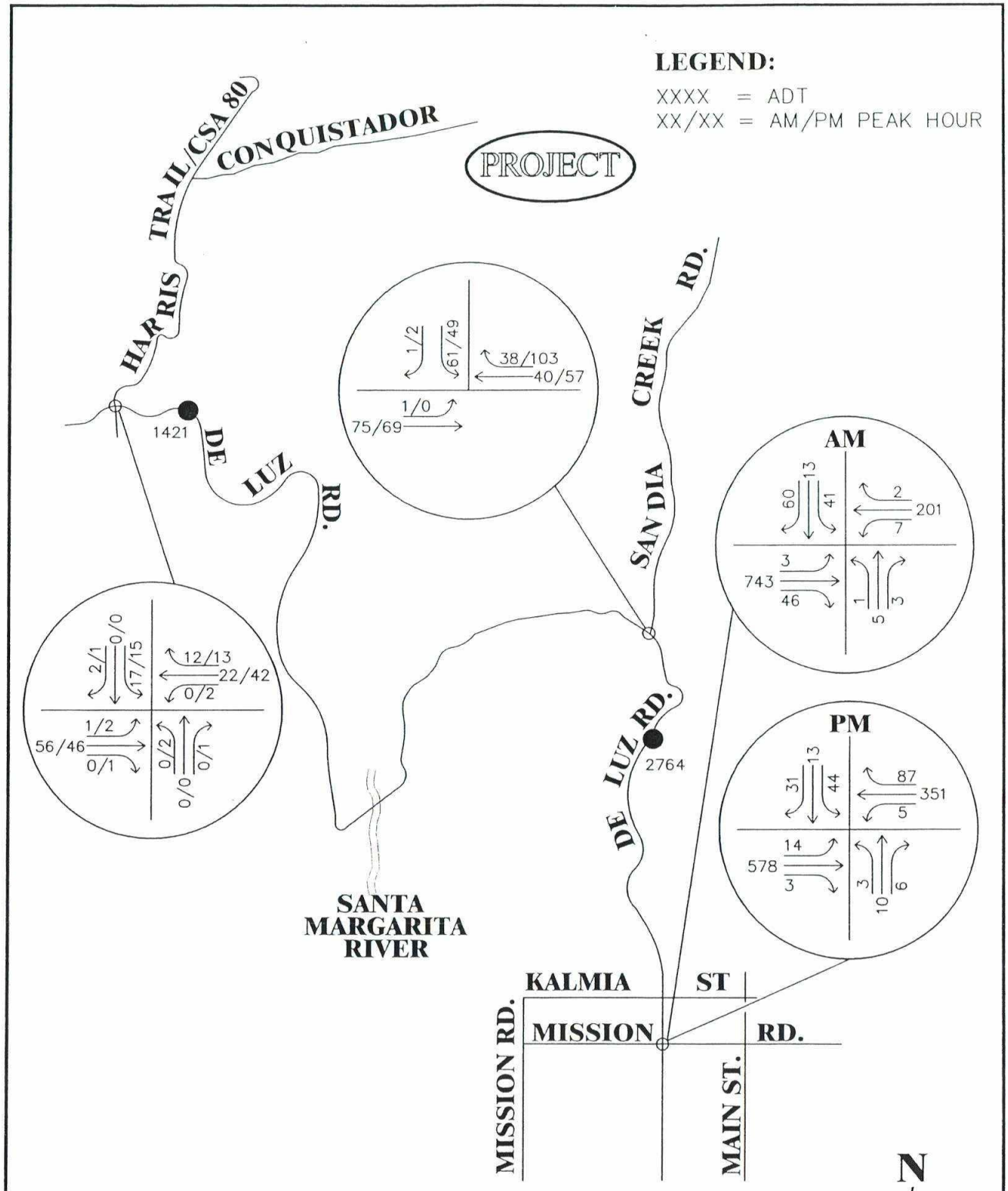
*Worst Case

As shown in Table 3, the difference in delay, or project impact, is less than one second in all cases. This means that under the County Guidelines, modified February 19, 2010, the project does not have a direct traffic impact at any of the three intersections, since the guidelines, even at LOS E or F, allow 2 or 1 secs. of delay (See Appendix A20 for Guidelines).

With respect to the ADT's on the segments shown on Figure 7, the combined traffic does not cause the LOS to change on either De Luz Road east of Harris Trail (still LOS A by County Standards) or on De Luz Road south of Sandia Creek Drive (still LOS B by County Standards). (See Appendix A14) The project thus does not have a direct traffic impact on the critical De Luz Road segments.

As mentioned previously however, the figure 6, ADT volumes shown on Mission Road, along with other projects, probably does exceed the 200 or 100 ADT limit on LOS E or LOS F sections of Mission Road, and thus the project must help mitigate its cumulative impact. (See A15)

A project as small as TM 5284 cannot do anything meaningful to mitigate the existing LOS E and LOS F on Mission Road. Recognizing this fact, the County Board of Supervisors has adopted the Transportation Impact Fee program (TIF). The TIF fee program requires projects to contribute fees to the TIF so that,



TM 5284 RPL

COMBINED "AFTER PROJECT" TRAFFIC
(FIG. 3 + FIG. 6)

FIGURE 7

NO SCALE

combined, a number of projects can accumulate monies in the TIF accounts, so that significant projects can be implemented to improve traffic conditions on TIF program projects. The goal of the fee methodology is to provide a normalized basis to spread the costs of proposed transportation improvements equitably to future development projects.

The TIF Program:

The San Diego County Board of Supervisors adopted an interim County Transportation Impact Fee (TIF) Program on April 20, 2005
On January 30, 2008, the Board of Supervisors adopted an updated TIF Program.

San Diego County Transportation Impact Fee (TIF) Program/Ordinance
The County of San Diego Board of Supervisors adopted a Transportation Impact Fee Ordinance for the unincorporated area of San Diego County. The ordinance enables the County to implement Transportation Impact Fee (TIF) programs. The TIF program requires payment of Fees that constitute a proposed project's fair share contribution towards the construction costs of the planned transportation facilities that are affected by the proposed development. The TIF fees are collected as a condition of approval of a subdivision or prior to issuance of a development permit, including and most typically a building permit.

The TIF Program provides a mechanism for mitigating the impacts created by future growth within the unincorporated area. The TIF is offered to developers to facilitate compliance with the CEQA mandate that development projects mitigate their indirect, cumulative traffic impacts. The County TIF Program assesses the fee on all new development that results in new/added traffic. The primary purpose of the TIF is twofold: (1) to fund the construction of identified roadway facilities needed to reduce, or mitigate, projected cumulative traffic impacts resulting from future development within the County; and (2) to allocate the costs of these roadway facilities proportionally among future developing properties based upon their individual cumulative traffic impacts.

Cumulative impacts are those impacts caused collectively by all development within the community. Cumulative impacts can result from individually minor, but collectively significant projects taking place over a period of time (CEQA Guidelines #15355). The CEQA Guidelines recognize that mitigation for cumulative impacts may involve the adoption of ordinances or regulations (CEQA Guidelines #15130) such as the County adopted Transportation Impact Fee Program.

TIF funds are collected into 23 local Community Planning Area accounts, three regional accounts, and three regional freeway ramp accounts. TIF funds are only used to pay for improvements to roadway facilities identified for inclusion in the TIF program, which include both County roads and Caltrans highway facilities. TIF funds collected for a specific local or regional area must be spent in the same area. For example, the TIF collected in the North Region TIF account may only be used for improvements to TIF facilities in the North Region. By ensuring TIF funds are spent for the specific roadway improvements identified in the TIF program, the CEQA mitigation requirement is satisfied and the Mitigation Fee Act nexus is met.

As part of the TIF Program process, the transportation infrastructure needs are characterized as one of the following: existing deficiencies; direct impacts of future development; or indirect (cumulative) impacts of future development. Existing roadway deficiencies are the responsibility of existing developed land uses and government agencies, and cannot be financed with impact fees. The TIF Program is not intended to

mitigate direct impacts which will continue to be the responsibility of individual development projects. Therefore, the TIF Program is only designed to address the cumulative impacts associated with new growth.

Recognizing that an individual development project is not wholly responsible for cumulative traffic impacts, each development project is required to mitigate in proportion to the project's estimated traffic generation. The County TIF Program enables projects to achieve CEQA compliance by paying a fair share toward the cost of improving roads in the future as the levels of service become unacceptable due to the increased traffic volume caused by the cumulative impacts, of various developments. The County's TIF Program goes into great detail in identifying anticipated development, the roads affected, roadway costs, and the existing and projected levels of service on those roads. As sufficient funds become available, the County will implement the improvements that it has committed to.

While contribution to the TIF Program will typically mitigate a project's cumulative impacts within the unincorporated area, certain projects would result in increases in density or intensity beyond the growth projections analyzed in the TIF report. These projects, such as General Plan Amendments, Specific Plan Amendments, Rezones and some Major Use Permits, may be required to implement mitigation for cumulative impacts beyond payment of the TIF. In addition, the TIF Program does not mitigate for cumulative impacts that occur in neighboring jurisdictions.

The proposed TM 5284 project generates 84 ADT. As shown in this TIS, these trips will be distributed on circulation element roadways in the County that were analyzed by the TIF program, some of which currently, or are projected to, operate at inadequate levels of service. These project trips therefore contribute to a potential significant cumulative impact and mitigation is required. The potential growth represented by the project was included in the growth projections upon which the TIF Program is based. Therefore, payment of the TIF, which will be required at issuance of building permits, in combination with other components of the program described above, will mitigate potential cumulative traffic impacts to less than significant on the network to be improved by TIF fees.

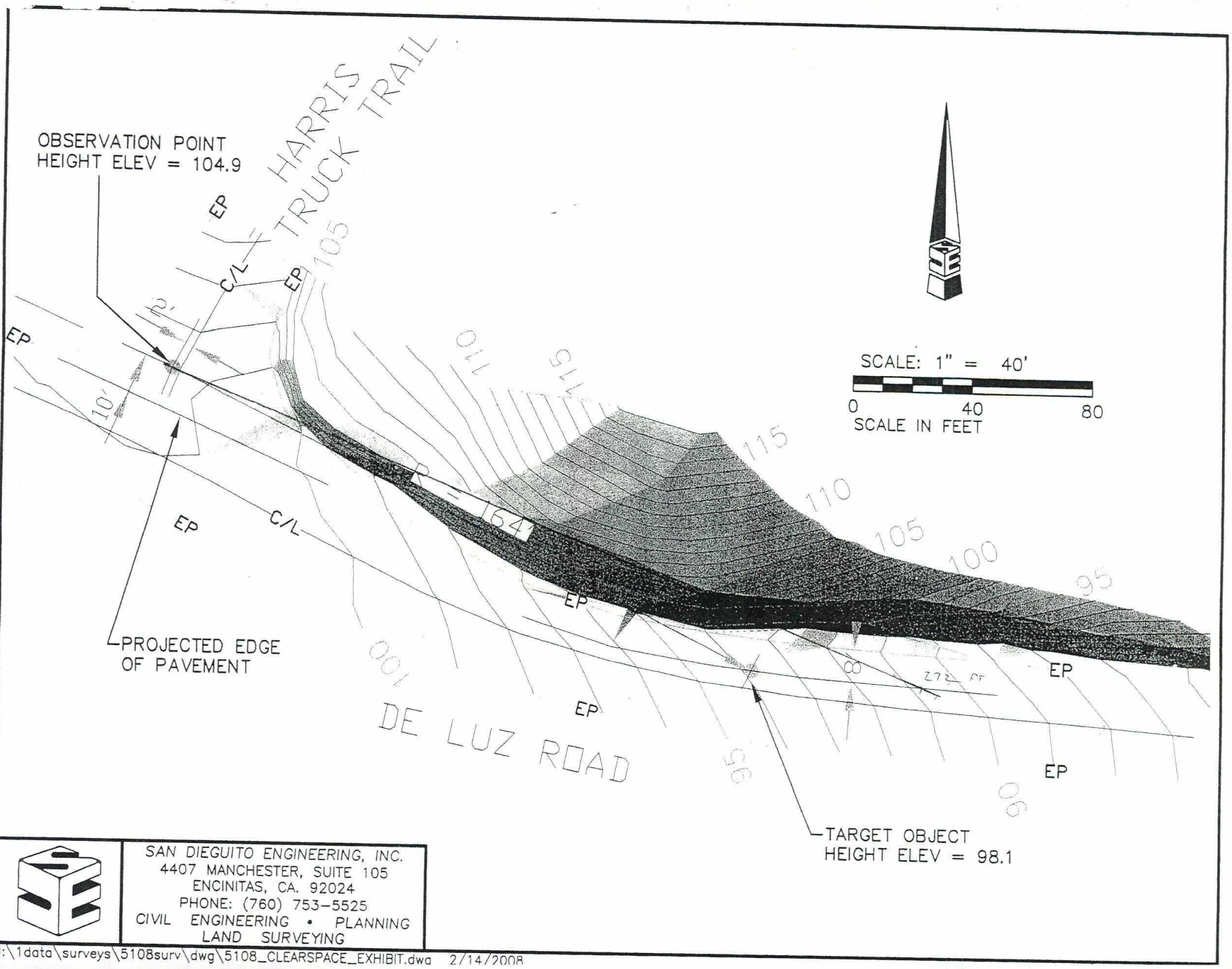
In the latest TIF program (January 30, 2008) freeway interchanges are now eligible to receive TIF fees. This means that the 28%of TM 5284's daily traffic or 40 ADT, that impacts the Mission Road / I-15 interchange area, will now be mitigated by paying the latest Fallbrook area TIF fees to the satisfaction of the Director of Public Works.

Sight Distance

As part of this TIS, this consultant conducted a radar speed study for both directions on De Luz Road, from Harris Trail. The speed study is in the Appendix (A21 thru A24) and was taken at the Harris Trail intersection, where approaching vehicles in both directions are climbing hills on De Luz Road. The 85th percentile speeds were 27.2 MPH for westbound De Luz vehicles and 30.7 MPH for eastbound vehicles.

Figure 8 shows a sight distance survey made from Harris Trail, to the east, or left, to De Luz Road. Note that today there is 164 feet of existing sight distance.

The existing sight distance was compared to the Caltrans Highway Design, Stopping Sight Distance Table 201.1. (See A25) Here it was found that 27.2 MPH (85th Percentile) requires 164 feet of stopping sight distance on a level surface and less on an uphill grade. Here, on De Luz Road from Harris Trail, in the 164



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feet shown on Figure 8, there is a 7.15 feet difference in grade (uphill) which requires even less than the 164 feet required by Caltrans. In the eastbound direction Caltrans requires 207 feet of stopping sight distance, without an uphill deduction, while 300 feet was found to exist in the field (See Appendix A25 for Caltrans Table 201.1).

AASHTO in their exhibit 9-51, would require 127 feet of sight distance for westbound De Luz vehicles and 144 feet for eastbound vehicles. From the above it is clear that the existing sight distance from Harris Road at De Luz meets these AASHTO requirements.

By studying Figure 8 and knowing Caltrans and AASHTO requirements, it is this consultants professional opinion that the existing sight distance is adequate at Harris Trail/De Luz at the present time. With the project adding only 84 ADT to the volumes at this intersection and a solid granite cut bank having to be blasted to meet County of San Diego standards, the cost would be too much for a 7 unit project to absorb. Therefore, a Modification to the County Standard was applied for, and granted, to leave the existing sight distance as it is at De Luz Rd and Harris Trail. (See Figure 9)

Along Harris Trail north of De Luz this C.S.A. 80 roadway has steep grades and sharp curves like De Luz Road. At the Conquistador intersection, the sight distance from Conquistador to the left is 400 feet and to the right it is 224 feet (See A30).
Radar speed studies performed here on Harris Trail at Conquistador, reveal that existing traffic has an 85th percentile speed of 17.5 MPH northbound and 17.0 MPH southbound (See Appendix A31-!34). Under Country Standards these speeds would require 180 feet of sight distance – well within the above existing sight distance.

County staff has asked for a clarification of the relationship of the Conquistador intersection from the east to Harris Trail, with the Via Cordoniz intersection from the west to Harris Trail. These two intersections along Harris Trail are 300 feet apart. Since Harris Trail is not a Circulation Element roadway they could be as little as 200 feet apart but, since they are over 200 feet there is no problem in leaving them as they exist.

Mitigation Measures

As mentioned in this TIS, the project will have no direct traffic impacts, and by County Guidelines, it does not have a cumulative impact, even though existing traffic on Mission Road and Mission Road at I-15, already creates LOS E and F in the Mission Road Corridor (See A15). However this project must help mitigate its minor cumulative traffic impacts by paying into the TIF program as per the January 30, 2009 version of the TIF program.

For safety purposes, and for existing and future residents, it is proposed that the project install a double yellow centerline with raised yellow markers from De Luz Road north, past the project. No painted edge lines are proposed.

Additionally, on this section of roadway, there are a number of sharp curves. To warn motorists who are not familiar with the existing curves it is recommended that 3 curve ahead signs be installed – 1 for northbound and 2 for southbound travelers. Figure 10 shows the recommended striping and sign locations. The northbound sign is located 500 feet north of the north edge of De Luz Road. The most northerly southbound sign is located across from the driveway to 38795 Harris Trail, while the southerly southbound sign is about 100 feet south of the Chandler project gate just in front of the very large boulder at the road

County of San Diego

DEPARTMENT OF PUBLIC WORKS

JOHN L. SNYDER
DIRECTOR

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RICHARD E. CROMPTON
ASSISTANT DIRECTOR

March 26, 2009

Ivan R. Fox
4407 Manchester Avenue, Suite 105
Encinitas, CA 92024

Dear Mr. Fox,

REQUEST FOR A MODIFICATION TO A ROAD STANDARD AND/OR TO PROJECT CONDITIONS, TM 5284 - CHANDLER

Department of Public Works (DPW) staff received your Request for a Modification to a Road Standard and/or to Project Conditions dated March 2, 2009. The request is for modification of project conditions to reduce the minimum sight distance along De Luz Road (SA 10), from Harris Trail (PRD 80), to one hundred sixty-four feet (164') in the easterly direction and three hundred feet (300') in the westerly direction.

DPW is able to support your request for modification to the above-mentioned condition. The site is served by Harris Trail (PRD 80). The intersection of De Luz Road (SA 10) and Harris Trail (PRD 80) is located off-site to the south of the project site. The available one hundred sixty-four feet (164') in the easterly direction and three hundred feet (300') in the westerly direction of sight distance along De Luz Road (SA 10), from Harris Trail (PRD 80), will comply with AASHTO recommendation for stopping distance based upon the radar speed study 85th percentile speeds of 27.2 MPH for westbound vehicles and 30.7 MPH for eastbound vehicles on De Luz Road (SA 10) as specified on the Traffic Impact Study prepared by Federhart and Associates dated September 19, 2008. It has been determined your request for exception will not adversely affect the safety and flow of traffic in this area. All other improvement conditions required by TM 5284 shall be met.

Should you have any questions or need additional information, please contact Richard Lantis, DPW Project Manager, at (858) 495-5804 or via facsimile at (858) 694-3373.

Sincerely,

Richard E. Crompton

RICHARD E. CROMPTON
Assistant Director

REC:RL:yl

FIGURE 9

SIGNS
3 ONLY

W1-5

WITH

NEXT 1.8 MILES BELOW

T / ● & / ▲

AND

WITH

NEXT 0.8 MILES BELOW

AT LOCATION 2 ●

STRIPING

ON HARRIS TRAIL APPROX 1.9 MILES OF CALTRANS DETAIL #22 DUBL YELLOW ℄ WITH RAISED YELLOW MARKERS

OCATION

▲1 = 500' NORTH OF DE LUZ RD

● ACROSS FROM 38975 HARRIS TRAIL GATE

● 100 FT SOUTH OF PROJECT GATE JUST NORTH OF HUGE BOULDER AT EDGE OF ROAD

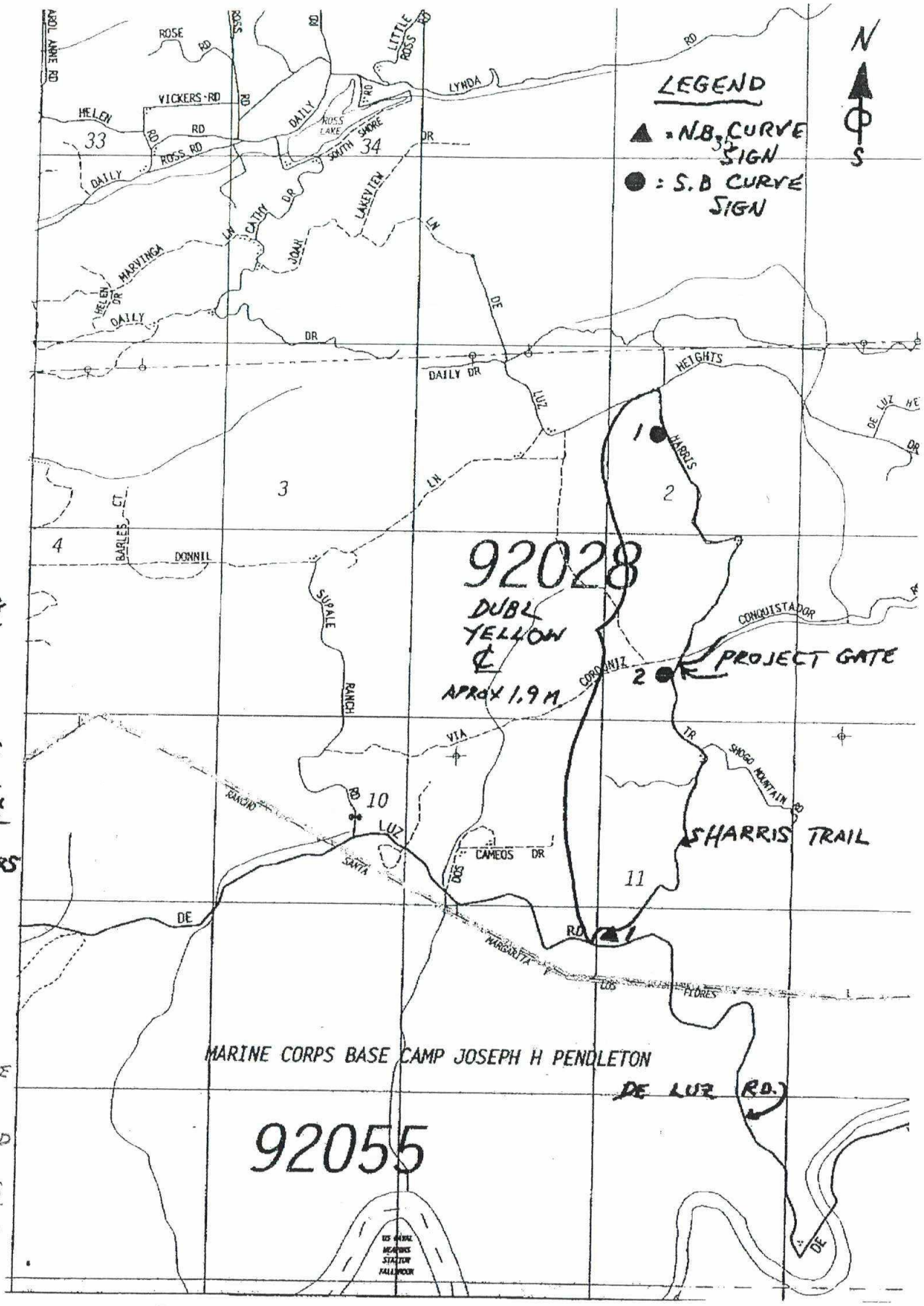
ALL SIGN POSTS

BE LOCATED

3 FT. FROM

DGE OF

EMENT.



PROPOSED PROJECT HARRIS TRAIL SIGNING AND STRIPING

FIGURE 10

edge. In the above three locations, the signs can easily be placed 3 or 4 feet outside the edge of Harris Trail Roadway.

Finally, County staff has asked this consultant to talk about the projects export of soil and its traffic impact. First it is now estimated that over a number of future years, 14500 cu. yds. of export will be generated by the TM 5284 roadway construction. This yardage, on single trucks (20 yds / truck) would be equivalent to about 725 truck loads over a number of years.

In the future, some of these loads could go north on Harris Trail, but assuming all of them travel to De Luz Road, they could then divide east and west along De Luz.

Harris Trail at the present time has less than 500 ADT while De Luz Road here has 1377 ADT east of Harris Trail. 725 truckloads over a number of years, even to unknown destinations along De Luz Road, are surely not going to seriously hurt traffic flows on such low volume roads, since, perhaps 25 truckloads would be a large number per one day.

Conclusions And Recommendations

As has been shown in this report, the proposed TM 5284 RPL project will have no significant direct traffic impact, or a considerably significant cumulative impact, on the area roadways and intersections.

Nevertheless, because Mission Road and the Mission Road / I-15 interchange area is operating at LOS E and F, the project has minor cumulative traffic impacts on traffic in the Mission Road corridor and therefore must help mitigate these cumulative impacts.

In order to Mitigate its cumulative traffic impact on Mission Road, other TIF network roadways, and the Mission Road / I-15 interchange, it is recommended that the TM 5284 project pay the County of San Diego TIF fee for each of its 7 new residential units, at the time of taking out the building permit for each unit.

As has been shown in the Sight Distance portion of this TIS, the existing sight distances at the De Luz / Harris Trail intersection, and the project Harris Trail / Conquistador intersection, are adequate at the present time for the existing speeds on the roadways.

It is recommended that the project stripe Harris Trail with a double yellow centerline with raised yellow markers, from De Luz Road northerly past the project, along with the installation of three standard curve ahead signs. Figure 10 shows the location of the three signs and their special distance legends.

It is recommended that the project improve Harris Trail to normal County requirements along its frontage.

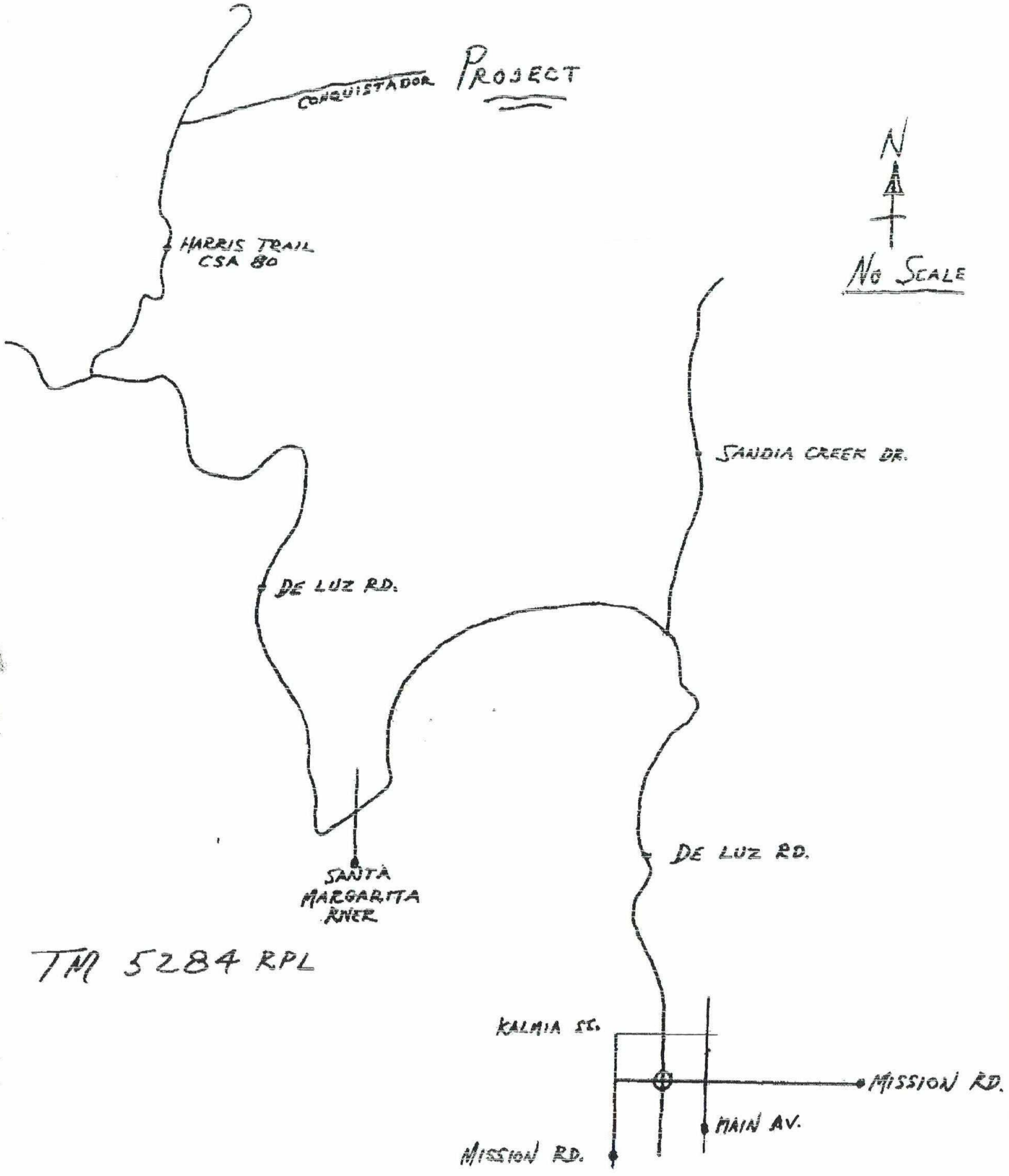
From the findings of this traffic report, it is the professional opinion of this consultant, that TM 5284 RPL, can be approved with the assurance that it will not degrade traffic conditions and will improve traffic safely for all the users of Harris Trail from De Luz Road to north of TM 5284.

James W. Federhart
Federhart & Associates

REGISTERED PROFESSIONAL ENGINEER
JAMES W. FEDERHART
No. 136
Exp. 3/31/12
TRAFFIC
STATE OF CALIFORNIA

F

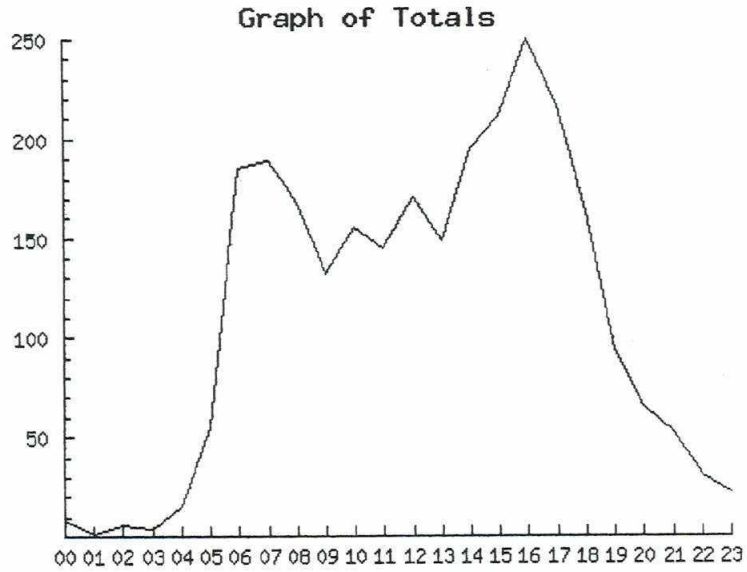
APPENDIX


CONQUISTADOR
PROJECT
N
NO SCALE
HARRIS TRAIL
CSA 80
SANDIA CREEK DR.
DE LUZ RD.
DE LUZ RD.
SANTA
MARGARITA
RIVER
KALMIA ST.
MISSION RD.
MAIN AV.
MISSION RD.

TM 5284 RPL

Daily Vehicle Volume Report

Location:
De Luz Road east of Sandia Creek Drive
File Number: #03002
Counter ID: 109
Report Duration:
Wednesday Apr 14, 2010 - 15:00 to
Thursday Apr 15, 2010 - 14:59
Other Notes:
None at this time

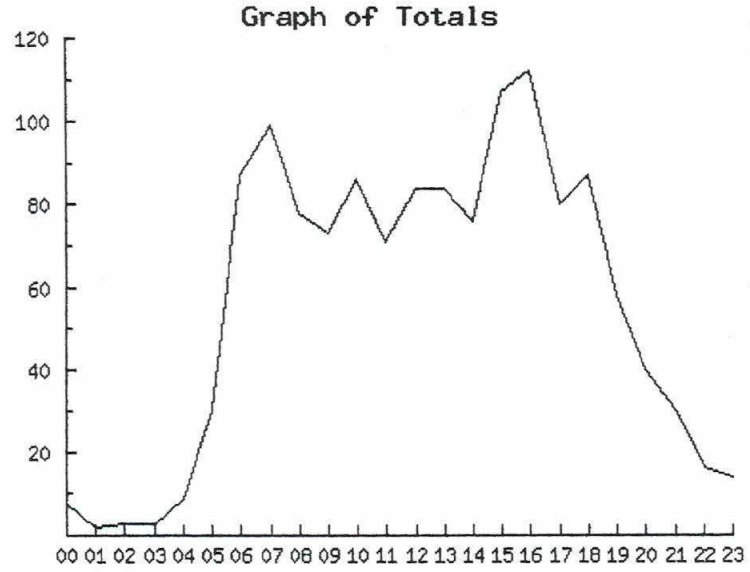


Time	North Bound Volume	South Bound Volume	Total Volume
00:00 - 00:59	6	3	9
01:00 - 01:59	1	0	1
02:00 - 02:59	2	4	6
03:00 - 03:59	1	3	4
04:00 - 04:59	5	10	15
05:00 - 05:59	32	23	55
06:00 - 06:59	96	89	185
07:00 - 07:59	67	122	189
08:00 - 08:59	68	100	168
09:00 - 09:59	56	76	132
10:00 - 10:59	60	95	155
11:00 - 11:59	72	73	145
12:00 - 12:59	86	85	171
13:00 - 13:59	54	95	149
14:00 - 14:59	84	111	195
15:00 - 15:59	107	104	211
16:00 - 16:59	135	115	250
17:00 - 17:59	142	74	216
18:00 - 18:59	95	68	163
19:00 - 19:59	52	42	94
20:00 - 20:59	46	20	66
21:00 - 21:59	46	6	52
22:00 - 22:59	23	8	31
23:00 - 23:59	17	5	22
Total	**1353**	**1331**	**2684**
AM Peak	6:00	7:15	7:15
Hour	6:59	8:14	8:14
Volume	96	127	202
PM Peak	16:30	14:30	16:15
Hour	17:29	15:29	17:14
Volume	148	117	253

A2

Daily Vehicle Volume Report

Location:
De Luz Road east of Harris Trail
File Number: #03001
Counter ID: 110
Report Duration:
Wednesday Apr 14, 2010 - 14:00 to
Thursday Apr 15, 2010 - 13:59
Other Notes:
None at this time



Time	East Bound Volume	West Bound Volume	Total Volume
00:00 - 00:59	2	6	8
01:00 - 01:59	1	1	2
02:00 - 02:59	2	1	3
03:00 - 03:59	3	0	3
04:00 - 04:59	7	2	9
05:00 - 05:59	15	15	30
06:00 - 06:59	46	41	87
07:00 - 07:59	68	31	99
08:00 - 08:59	45	33	78
09:00 - 09:59	40	33	73
10:00 - 10:59	52	34	86
11:00 - 11:59	38	33	71
12:00 - 12:59	38	46	84
13:00 - 13:59	56	28	84
14:00 - 14:59	33	43	76
15:00 - 15:59	52	55	107
16:00 - 16:59	56	56	112
17:00 - 17:59	26	54	80
18:00 - 18:59	34	53	87
19:00 - 19:59	23	35	58
20:00 - 20:59	14	26	40
21:00 - 21:59	5	25	30
22:00 - 22:59	3	13	16
23:00 - 23:59	3	11	14
Total	**662**	**675**	**1337**
AM Peak	7:00	6:00	7:00
Hour	7:59	6:59	7:59
Volume	68	41	99
PM Peak	16:00	15:30	16:00
Hour	16:59	16:29	16:59
Volume	56	61	112

Federhart & Associates

2845 Nimitz Boulevard, Suite G, San Diego, CA 92106

Counted By: Emp. #01
Location: Harris Trail & De Luz Road

Start Date: 04/15/2010
File Name: 030-03-1

	Harris Trail Southbound				De Luz Road Westbound				Private Driveway Northbound				De Luz Road Eastbound				
Start Time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Interval Total
7:00	2	0	0	0	0	3	0	0	0	0	1	0	0	7	0	0	13
7:15	6	0	0	0	0	4	3	0	0	0	0	0	0	19	0	0	32
7:30	3	0	1	0	0	6	0	0	0	0	0	0	0	14	0	0	24
7:45	2	0	1	0	0	7	2	0	0	0	0	0	1	13	0	0	26
Total	13	0	2	0	0	20	5	0	0	0	1	0	1	53	0	0	95
8:00	1	0	0	0	0	5	4	0	0	0	0	0	0	10	0	0	20
8:15	0	0	0	0	0	7	1	0	0	0	0	0	0	9	0	0	17
8:30	2	0	1	0	0	4	1	0	0	0	0	0	0	9	0	0	17
8:45	0	0	0	0	0	8	2	0	0	0	0	0	0	11	1	0	22
Total	3	0	1	0	0	24	8	0	0	0	0	0	0	39	1	0	76
Grand Total	16	0	3	0	0	44	13	0	0	0	1	0	1	92	1	0	171
Approach%	84.2	-	15.8	-	-	77.2	22.8	-	-	-	100.0	-	1.1	97.9	1.1	-	
Total%	9.4	-	1.8	-	-	25.7	7.6	-	-	-	0.6	-	0.6	53.8	0.6	-	

Peak hour analysis for the period 07:15 to 08:00

Volume	12	-	2	-	-	22	9	-	-	-	-	-	1	56	-	-	102
Approach%	85.7	-	14.3	-	-	71.0	29.0	-	-	-	-	-	1.8	98.2	-	-	
Total%	11.8	-	2.0	-	-	21.6	8.8	-	-	-	-	-	1.0	54.9	-	-	
PHF				0.58				0.86				######				0.75	

A4

Federhart & Associates

2845 Nimitz Boulevard, Suite G, San Diego, CA 92106

Counted By: Emp. #17
Location: Harris Trail & De Luz Road

Start Date: 04/15/2010
File Name: 030-03-2

	Harris Trail Southbound				De Luz Road Westbound				Private Driveway Northbound				De Luz Road Eastbound				
Start Time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Interval Total
16:00	2	0	1	0	1	7	5	0	0	0	0	0	1	8	1	0	26
16:15	5	0	0	0	1	12	0	0	0	0	0	0	1	11	0	0	30
16:30	3	0	0	0	0	10	0	0	2	0	1	0	0	10	0	0	26
16:45	2	0	0	0	0	13	1	0	0	0	0	0	0	17	0	0	33
Total	12	0	1	0	2	42	6	0	2	0	1	0	2	46	1	0	115
17:00	1	0	0	0	0	13	1	0	0	0	0	0	0	8	0	0	23
17:15	2	0	0	0	0	6	4	0	0	0	0	0	0	12	0	0	24
17:30	1	0	0	0	0	14	2	0	0	0	0	0	0	10	0	0	27
17:45	3	0	1	0	0	10	6	0	0	0	0	0	0	3	0	0	23
Total	7	0	1	0	0	43	13	0	0	0	0	0	0	33	0	0	97
Grand Total	19	0	2	0	2	85	19	0	2	0	1	0	2	79	1	0	212
Approach%	90.5	-	9.5	-	1.9	80.2	17.9	-	66.7	-	33.3	-	2.4	96.3	1.2	-	
Total%	9.0	-	0.9	-	0.9	40.1	9.0	-	0.9	-	0.5	-	0.9	37.3	0.5	-	

Peak hour analysis for the period 16:00 to 16:45

Volume	12	-	1	-	2	42	6	-	2	-	1	-	2	46	1	-	115
Approach%	92.3	-	7.7	-	4.0	84.0	12.0	-	66.7	-	33.3	-	4.1	93.9	2.0	-	
Total%	10.4	-	0.9	-	1.7	36.5	5.2	-	1.7	-	0.9	-	1.7	40.0	0.9	-	
PHF				0.65				0.89				0.25				0.72	

A5

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2845 Nimitz Boulevard, Suite G, San Diego, CA 92106

Counted By: Emp. #18
Location: Sandia Creek Drive & De Luz Road

Start Date: 04/15/2010
File Name: 030-02-1

	Sandia Creek Drive Southbound				De Luz Road Westbound				Northbound				De Luz Road Eastbound				
Start Time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Interval Total
7:00	9	0	0	0	0	5	7	0	0	0	0	0	0	11	0	0	32
7:15	22	0	1	0	0	8	7	0	0	0	0	0	0	26	0	0	64
7:30	12	0	0	0	0	8	7	0	0	0	0	0	0	17	0	0	44
7:45	12	0	0	0	0	11	13	0	0	0	0	0	1	16	0	0	53
Total	55	0	1	0	0	32	34	0	0	0	0	0	1	70	0	0	193
8:00	15	0	0	0	0	10	11	0	0	0	0	0	0	11	0	0	47
8:15	12	0	1	2	0	7	9	0	0	0	0	0	1	12	0	0	44
8:30	13	0	0	0	0	7	15	0	0	0	0	0	0	10	0	0	45
8:45	11	0	0	0	0	11	8	0	0	0	0	0	0	18	0	0	48
Total	51	0	1	2	0	35	43	0	0	0	0	0	1	51	0	0	184
Grand Total	106	0	2	2	0	67	77	0	0	0	0	0	2	121	0	0	377
Approach%	96.4	-	1.8	1.8	-	46.5	53.5	-	-	-	-	-	1.6	98.4	-	-	
Total%	28.1	-	0.5	0.5	-	17.8	20.4	-	-	-	-	-	0.5	32.1	-	-	

Peak hour analysis for the period 07:15 to 08:00

Volume	61	-	1	-	-	37	38	-	-	-	-	-	1	70	-	-	208
Approach%	98.4	-	1.6	-	-	49.3	50.7	-	-	-	-	-	1.4	98.6	-	-	
Total%	29.3	-	0.5	-	-	17.8	18.3	-	-	-	-	-	0.5	33.7	-	-	
PHF				0.67				0.78				######				0.68	

A6

Federhart & Associates

2845 Nimitz Boulevard, Suite G, San Diego, CA 92106

Counted By: Emp. #01
Location: Sandia Creek Drive & De Luz Road

Start Date: 04/15/2010
File Name: 030-02-2

	Sandia Creek Drive Southbound				De Luz Road Westbound				Northbound				De Luz Road Eastbound				
Start Time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Interval Total
16:00	19	0	0	0	0	12	14	0	0	0	0	0	1	5	0	0	51
16:15	16	0	1	0	0	13	22	0	0	0	0	0	0	19	0	0	71
16:30	11	0	0	0	0	9	27	0	0	0	0	0	0	16	0	0	63
16:45	16	0	1	0	0	15	22	0	0	0	0	0	0	18	0	0	72
Total	62	0	2	0	0	49	85	0	0	0	0	0	1	58	0	0	257
17:00	6	0	0	0	0	13	32	0	0	0	0	0	0	13	0	0	64
17:15	12	0	0	0	0	14	22	0	0	0	0	0	0	10	0	0	58
17:30	3	0	0	0	0	14	18	0	0	0	0	0	0	9	0	0	44
17:45	10	0	0	0	0	18	13	0	0	0	0	0	1	8	0	0	50
Total	31	0	0	0	0	59	85	0	0	0	0	0	1	40	0	0	216
Grand Total	93	0	2	0	0	108	170	0	0	0	0	0	2	98	0	0	473
Approach%	97.9	-	2.1	-	-	38.8	61.2	-	-	-	-	-	2.0	98.0	-	-	
Total%	19.7	-	0.4	-	-	22.8	35.9	-	-	-	-	-	0.4	20.7	-	-	

Peak hour analysis for the period 16:15 to 17:00

Volume	49	-	2	-	-	50	103	-	-	-	-	-	-	66	-	-	270
Approach%	96.1	-	3.9	-	-	32.7	67.3	-	-	-	-	-	-	100.0	-	-	
Total%	18.1	-	0.7	-	-	18.5	38.1	-	-	-	-	-	-	24.4	-	-	
PHF				0.75				0.85				######				0.87	

Federhart & Associates

2845 Nimitz Boulevard, Suite G, San Diego, CA 92106

Counted By: Emp. #17
Location: Pico Avenue & Mission Road

Start Date: 04/15/2010
File Name: 030-01-1

	Pico Avenue Southbound				Mission Avenue Westbound				Pico Avenue Northbound				Mission Avenue Eastbound				
Start Time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Interval Total
7:00	6	2	16	0	2	221	14	2	0	1	0	0	0	45	0	2	311
7:15	9	2	19	0	0	205	9	0	1	0	1	1	3	38	0	2	290
7:30	11	5	12	0	0	166	10	0	0	1	1	0	3	51	0	0	260
7:45	12	4	13	0	0	151	13	0	0	3	1	0	1	67	0	0	265
Total	38	13	60	0	2	743	46	2	1	5	3	1	7	201	0	4	1126
8:00	17	2	10	0	0	133	17	0	0	1	0	0	3	63	0	0	246
8:15	13	1	5	0	1	114	13	0	0	0	0	0	5	61	0	0	213
8:30	9	1	3	0	3	101	13	0	0	1	0	2	3	62	0	1	199
8:45	13	4	8	1	2	100	15	0	1	1	0	3	0	81	1	0	230
Total	52	8	26	1	6	448	58	0	1	3	0	5	11	267	1	1	888
Grand Total	90	21	86	1	8	1191	104	2	2	8	3	6	18	468	1	5	2014
Approach%	45.5	10.6	43.4	0.5	0.6	91.3	8.0	0.2	10.5	42.1	15.8	31.6	3.7	95.1	0.2	1.0	
Total%	4.5	1.0	4.3	0.0	0.4	59.1	5.2	0.1	0.1	0.4	0.1	0.3	0.9	23.2	0.0	0.2	

Peak hour analysis for the period 07:00 to 07:45

Volume	38	13	60	-	2	743	46	2	1	5	3	1	7	201	-	4	1,126
Approach%	34.2	11.7	54.1	-	0.3	93.7	5.8	0.3	10.0	50.0	30.0	10.0	3.3	94.8	-	1.9	
Total%	3.4	1.2	5.3	-	0.2	66.0	4.1	0.2	0.1	0.4	0.3	0.1	0.6	17.9	-	0.4	
PHF				0.93				0.83				0.63				0.78	

Federhart & Associates

2845 Nimitz Boulevard, Suite G, San Diego, CA 92106

Counted By: Emp. #18
Location: Pico Avenue & Mission Road

Start Date: 04/15/2010
File Name: 030-01-2

	Pico Avenue Southbound				Mission Avenue Westbound				Pico Avenue Northbound				Mission Avenue Eastbound				
Start Time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Interval Total
16:00	10	6	4	1	3	95	18	3	0	1	1	1	5	139	1	0	288
16:15	12	2	4	0	1	81	22	0	0	4	4	0	1	145	0	0	276
16:30	10	4	13	0	0	105	20	5	3	4	0	1	3	149	1	0	318
16:45	10	1	10	2	1	70	23	0	0	1	1	0	3	145	1	0	268
Total	42	13	31	3	5	351	83	8	3	10	6	2	12	578	3	0	1150
17:00	8	1	2	0	1	80	24	2	0	3	2	1	2	125	0	2	253
17:15	9	1	5	0	0	87	18	0	0	2	0	1	11	135	0	0	269
17:30	14	3	7	0	1	72	13	1	1	0	1	0	6	119	0	0	238
17:45	10	3	4	0	0	90	14	1	2	4	5	0	3	100	2	0	238
Total	41	8	18	0	2	329	69	4	3	9	8	2	22	479	2	2	998
Grand Total	83	21	49	3	7	680	152	12	6	19	14	4	34	1057	5	2	2148
Approach%	53.2	13.5	31.4	1.9	0.8	79.9	17.9	1.4	14.0	44.2	32.6	9.3	3.1	96.3	0.5	0.2	
Total%	3.9	1.0	2.3	0.1	0.3	31.7	7.1	0.6	0.3	0.9	0.7	0.2	1.6	49.2	0.2	0.1	

Peak hour analysis for the period 16:00 to 16:45

Volume	42	13	31	3	5	351	83	8	3	10	6	2	12	578	3	-	1,150
Approach%	47.2	14.6	34.8	3.4	1.1	78.5	18.6	1.8	14.3	47.6	28.6	9.5	2.0	97.5	0.5	-	
Total%	3.7	1.1	2.7	0.3	0.4	30.5	7.2	0.7	0.3	0.9	0.5	0.2	1.0	50.3	0.3	-	
PHF				0.82				0.86				0.66				0.97	

Level Of Servic e Computation Report
2000 HCM Operations Metho d (Future Volume Alt ernative)

Intersection #1 M ission Rd & Pico Ave

Cycle (sec): 105 Critical Vol./Cap .(X): 0.582
Loss Time (sec): 16 Average Delay (se c/veh): 16.8
Optimal Cycle: OP TIMIZED Level Of Service: B

Street Name:	Pico Avenue									Mission Road								
Approach:	No rth Bound			South Bound			East Bo und			West Bound								
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Sp lit Phase			Split Phase			Protecte d			Protected								
Rights:	Include			In clude			Inclu de			Include								
Min. Green:	5	5	5	5	5	5	5	5	5	5	5	5						
Y+R:	4.0	4.0	4.0	4.0	4 .0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	0	0	1! 0	0	0	1	0	1	0	1	0	0	1	0	1	0	2	0	1	
Volume Module:																				
Base Vol:	1	5	3	38	13	60	2	743		46	7	201		0						
Growth Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00		1.00	1.00	1.00		1. 00						
Initial Bse:	1	5	3	38	13	60	2	743		46	7	201		0						
Added Vol:	0	0	0	0	0	0	0	0		0	0	0		0						
PasserByVol:	0	0	0	0	0	0	0	0		0	0	0		0						
Initial Fut:	1	5	3	38	13	60	2	743		46	7	201		0						
User Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00		1.00	1.00	1.00		1. 00						
PHF Adj:	0.95	0.95	0.95	0.95	0. 95	0.95	0.95	0.95		0.95	0.95	0.95		0. 95						
PHF Volume:	1	5	3	40	14	63	2	782		48	7	212		0						
Reduct Vol:	0	0	0	0	0	0	0	0		0	0	0		0						
Reduced Vol:	1	5	3	40	1 4	63	2	782		48	7	212		0						
PCE Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00		1.00	1.00	1.00		1. 00						
MLF Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00		1.00	1.00	1.00		1. 00						
FinalVolume:	1	5	3	40	1 4	63	2	782		48	7	212		0						
Saturation Flow M odule:																				
Sat/Lane:	1900	1900	1900	1900	19 00	1900	1900	1900		1900	1900	1900		19 00						
Adjustment:	0.93	0.93	0.92	0.84	0. 84	0.83	0.93	0.97		0.97	0.93	0.93		1. 00						
Lanes:	0.11	0.55	0.34	0.75	0. 25	1.00	1.00	0.94		0.06	1.00	2.00		1. 00						
Final Sat.:	196	979	587	1191	4 07	1580	1769	1738		108	1769	3538		19 00						
Capacity Analysis Module:																				
Vol/Sat:	0.01	0.01	0.01	0.03	0. 03	0.04	0.00	0.45		0.45	0.00	0.06		0. 00						
Crit Moves:	****				** **			****			****									
Green/Cycle:	0.05	0.05	0.05	0.06	0.0 6	0.06	0.33	0.69		0.69	0.05	0.41		0.0 0						
Volume/Cap:	0.11	0.11	0.11	0.55	0. 55	0.65	0.00	0.65		0.65	0.09	0.15		0. 00						
Uniform Del:	47.9	47.9	47.9	47.9	47 .9	48.2	23.8	9.1		9.1	47.8	19.4		0 .0						
IncremntDel:	0.6	0.6	0.6	3.0	3. 0	8.2	0.0	1.2		1.2	0.5	0.0		0. 0						
InitQueuDel:	0.0	0.0	0.0	0.0	0 .0	0.0	0.0	0.0		0.0	0.0	0.0		0 .0						
Delay Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00		1.00	1.00	1.00		0. 00						
Delay/Veh:	48.5	48.5	48.5	50.8	50 .8	56.4	23.8	10.3		10.3	48.3	19.4		0. 0						
User DelAdj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00		1.00	1.00	1.00		1. 00						
AdjDel/Veh:	48.5	48.5	48.5	50.8	50 .8	56.4	23.8	10.3		10.3	48.3	19.4		0 .0						
LOS by Move:	D	D	D	D	D	E	C	B		B	D	B		A						
HCM2k95thQ:	1	1	1	5	5	7	0	27		27	1	4		0						

A 10

Level Of Servic e Computation Report
2000 HC M Unsignalized Metho d (Future Volume Alt ernative)

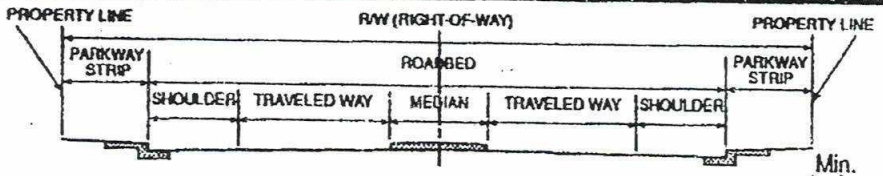
Intersection #2 S andia Creek Dr & De Luz Rd

Average Delay (se c/veh): 2.9 Worst Case Level Of Service: A[9.7]

Street Name:	De Luz Road									San dia Creek Drive								
Approach:	No rth Bound			South Bound			East Bo und			West Bound								
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Un controlled			Uncon trolled			Stop Si gn			Stop Sign								
Rights:	Include			In clude			Inclu de			Include								
Lanes:	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1! 0	0	
Volume Module:																				
Base Vol:	0	37	38	1	70	0	0	0		0	61	0		1						
Growth Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00		1.00	1.00	1.00		1. 00						
Initial Bse:	0	37	38	1	70	0	0	0		0	61	0		1						
Added Vol:	0	0	0	0	0	0	0	0		0	0	0		0						
PasserByVol:	0	0	0	0	0	0	0	0		0	0	0		0						
Initial Fut:	0	37	38	1	70	0	0	0		0	61	0		1						
User Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00		1.00	1.00	1.00		1. 00						
PHF Adj:	0.95	0.95	0.95	0.95	0. 95	0.95	0.95	0.95		0.95	0.95	0.95		0. 95						
PHF Volume:	0	39	40	1	74	0	0	0		0	64	0		1						
Reduct Vol:	0	0	0	0	0	0	0	0		0	0	0		0						
FinalVolume:	0	39	40	1	74	0	0	0		0	64	0		1						
Critical Gap Modu le:																				
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xx xx	xxxxx	xxxxx	xxxx		xxxxx	6.4	6.5		6 .2						
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xx xx	xxxxx	xxxxx	xxxx		xxxxx	3.5	4.0		3 .3						
Capacity Module:																				
Cnflict Vol:	xxxx	xxxx	xxxxx	89	xx xx	xxxxx	xxxx	xxxx		xxxxx	155	155		79						
Potent Cap.:	xxxx	xxxx	xxxxx	1507	xx xx	xxxxx	xxxx	xxxx		xxxxx	837	737		9 82						
Move Cap.:	xxxx	xxxx	xxxxx	1494	xxx x	xxxxx	xxxx	xxxx	x	xxxx	822	724		96 5						
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xx xx	xxxx	xxxx	xxxx		xxxx	0.08	0.00		0. 00						
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xx xx	xxxxx	xxxx	xxxx		xxxxx	xxxx	xxxx	xxx	xx						
Control Del:	xxxxx	xxxx	xxxxx	7.4	xx xx	xxxxx	xxxxx	xxxx		xxxxx	xxxxx	xxxx	xxx	xx						
LOS by Move:	*	*	*	A	*	*	*	*		*	*	*		*						
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -		RT	LT -	LTR -	R T							
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xx xx	xxxxx	xxxx	xxxx		xxxxx	xxxx	824	xxx	xx						
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xx xx	xxxxx	xxxxx	xxxx		xxxxx	xxxxx	0.3	xxx	xx						
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.4	xx xx	xxxxx	xxxxx	xxxx		xxxxx	xxxxx	9.7	xxx	xx						
Shared LOS:	*	*	*	A	*	*	*	*		*	*	A		*						
ApproachDel:	x	xxxxx		xxxx	xx		xxxxxx				9.7									
ApproachLOS:		*			*			*				A								

Note: Queue repor ted is the number of cars per lane.

SUMMARY OF COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS†



CLASS	CIRCULATION ELEMENT ROAD CROSS-SECTIONS									AVERAGE DAILY VEHICLE TRIPS (ADT)				
										LEVEL OF SERVICE (LOS)				
	Median	Traveled way	Shoulder	Parkway strip	Roadbed	R/W*	Min.curve radius	Max. grades	Min. design speed (mph)	A Free flow	B Steady flow	C Stable flow	D Approach unstable	E Unstable flow
EXPRESSWAY Divided highway with only selected public road access with full grade separations	34'	36'	10'	10'	126'	146'	1200'	6%	55	<36,000	<54,000	<70,000	<86,000	<108,000
PRIME ARTERIAL Divided highway, signalized intersections, access control, or extra lanes as required	14'	36'	8'	10'	102'	122'	1200'	6%	55	<22,200	<37,000	<44,600	<50,000	<57,000
MAJOR ROAD 4-lane divided road, access & parking controlled as necessary	14'	24'	8'	10'	78'	98'	1200'	7%	55	<14,800	<24,700	<29,600	<33,400	<37,000
COLLECTOR 4-lane undivided road	—	24'	8'	10'	64'	84'	700'	7%	45	<13,700	<22,800	<27,400	<30,800	<34,200
LIGHT COLLECTOR 2-lane undivided road	—	12'	8'	10'	40'	60'	700'	9%	45	<1,900	<4,100	<7,100	<10,900	<16,200
RURAL COLLECTOR 2-lane undivided road, extra R/W allows greater flexibility & upgrade	—	12'	8'	22'	40'	84'	500'	12%	40	<1,900	<4,100	<7,100	<10,900	<16,200
RURAL LIGHT COLLECTOR 2-lane undivided road,decreased "curve radii" standards	—	12'	8'	10'	40'	60'	500'	12%	40	<1,900	<4,100	<7,100	<10,900	<16,200
RURAL MOUNTAIN 2-lane undivided road appropriate only in rural mountain areas	—	12'	8'	30'	40'	100'	500'	12%	40	<1,900	<4,100	<7,100	<10,900	<16,200
RECREATIONAL PARKWAY Recreational routes for travel pleasure purposes	—	12'	8'	30'	40'	100'	400'	12%	25	<1,900	<4,100	<7,100	<10,900	<16,200
NON-CIRCULATION ROADS														
RESIDENTIAL COLLECTOR	—	12'	8'	10'	40'	60'	300'	12%	30	<4,500				
RESIDENTIAL STREET	—	12'	6'	10'	36'	56'	200'	15%	30	<1,500				
RESIDENTIAL LOOP/CUL-DE-SAC	—	12'	4'	10'	32'	52'	200'	15%	30	<200				

Levels of service are not applied to non-circulation roads since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors. Not all non-circulation road classifications are shown.

*Additional pavement and R/W may be required for C.E. Collectors and L.L. Collectors in Industrial/Commercial Zones, 4 and 12 ft., respectively. C.E. roads needing additional turn lanes will require an additional 12 to 14 ft. of pavement and R/W for each lane. **C.E. roads designated with Bike Lanes will require an additional 10 ft. of pavement and R/W.**

†For full standards, refer to Public Road Standards, adopted by the Board of Supervisors on 2/26/92

A 14

Level Of Servic e Computation Report
2000 H CM Unsignalized Meth od (Future Volume Al ternative)

Intersection #3 D e Luz Rd & Harris Tr

Average Delay (se c/veh): 1.6 Worst Case Level O f Service: A[9.3]

Street Name:	Harris Trail						De Luz Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	2	0	1	12	0	1	2	46	1	2	42	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	0	1	12	0	1	2	46	1	2	42	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	0	1	12	0	1	2	46	1	2	42	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	2	0	1	13	0	1	2	48	1	2	44	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	2	0	1	13	0	1	2	48	1	2	44	6
Critical Gap Modu le:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxx xx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxx xx
Capacity Module:												
Cnflict Vol:	125	128	69	125	125	67	61	xxxx	x xxxx	59	xxxx	xxxx x
Potent Cap.:	849	763	994	849	765	996	1543	xxxx	xxxxx	1544	xxxx	xxx xx
Move Cap.:	832	748	978	832	750	980	1530	xxxx	xxxxx	1531	xxxx	xxx xx
Volume/Cap:	0.00	0.00	0.00	0.02	0.00	0.00	0.00	xxxx	xxxx	0.00	xxxx	xxx x
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xx xx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxx xx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxx x	xxxxx	7.4	xxxx	x xxxx	7.4	xxxx	xxxx x
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	R T
Shared Cap.:	xxxx	875	xxxxx	xxxx	842	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxx xx
SharedQueue:	xxxxx	0.0	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxx xx
Shrd ConDel:	xxxxx	9.1	xxxxx	xxxxx	9.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxx xx
Shared LOS:	*	A	*	*	A	*	*	*	*	*	*	*
ApproachDel:		9.1			9.3		xxxxxx			xxxxxx		
ApproachLOS:		A			A		*			*		

Note: Queue repor ted is the number of cars per lane.

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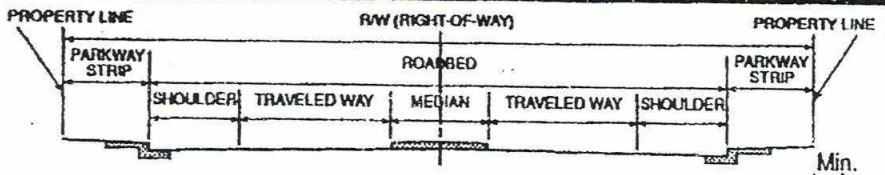
SUMMARY OF COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS†



CLASS	CIRCULATION ELEMENT ROAD CROSS-SECTIONS									AVERAGE DAILY VEHICLE TRIPS (ADT) LEVEL OF SERVICE (LOS)				
	Median	Traveled way	Shoulder	Parkway strip	Roadbed	R/W*	Min. curve radius	Max. grades	Min. design speed (mph)	A Free flow	B Steady flow	C Stable flow	D Approach unstable	E Unstable flow
EXPRESSWAY Divided highway with only selected public road access with full grade separations	34'	36'	10'	10'	126'	146'	1200'	6%	55	<36,000	<54,000	<70,000	<86,000	<108,000
PRIME ARTERIAL Divided highway, signalized intersections, access control, or extra lanes as required	14'	36'	8'	10'	102'	122'	1200'	6%	55	<22,200	<37,000	<44,600	<50,000	<57,000
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RURAL LIGHT COLLECTOR 2-lane undivided road, decreased "curve radii" standards	—	12'	8'	10'	40'	60'	500'	12%	40	<1,900	<4,100	<7,100	<10,900	<16,200
RURAL MOUNTAIN 2-lane undivided road appropriate only in rural mountain areas	—	12'	8'	30'	40'	100'	500'	12%	40	<1,900	<4,100	<7,100	<10,900	<16,200
RECREATIONAL PARKWAY Recreational routes for travel pleasure purposes	—	12'	8'	30'	40'	100'	400'	12%	25	<1,900	<4,100	<7,100	<10,900	<16,200
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RESIDENTIAL STREET	—	12'	6'	10'	36'	56'	200'	15%	30	<1,500				
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†For full standards, refer to Public Road Standards, adopted by the Board of Supervisors on 2/26/92

A 14

congestion on roads at LOS E or F. It states that new development that would significantly impact congestion on roads operating at LOS E or F, either currently or as a result of the project, will be denied unless improvements are scheduled to attain a LOS to D or better or appropriate mitigation is provided. The following significance guidelines define a method for evaluating whether or not increased traffic volumes generated or redistributed from a proposed project will "significantly impact congestion" on County roads, operating at LOS E or F, either currently or as a result of the project.

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or level of service traffic impact on a road segment:

- ***The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a Circulation Element Road or State Highway currently operating at LOS E or LOS F, or will cause a Circulation Element Road or State Highway to operate at a LOS E or LOS F as a result of the proposed project as identified in Table 1, or***

- ***The additional or redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity.***

Table 1
Measures of Significant Project Impacts to Congestion on Circulation Element Road Segments: Allowable Increases on Congested Road Segments

Level of service	Two-lane road	Four-lane road	Six-lane road
LOS E	200 ADT	400 ADT	600 ADT
LOS F	100 ADT	200 ADT	300 ADT

Notes:
1. **By adding proposed project trips to all other trips from a list of projects, this same table must be used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes additional trips must mitigate a share of the cumulative impacts.**
2. **The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.**

LOS E

The first significance criterion listed in Table 1 addresses roadways presently operating at LOS E. Based on these criteria, an impact from new development on an LOS E road would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 200 ADT. Using SANDAG's "Brief Guide for Vehicular Traffic Generation Rates for the San Diego Region" for most discretionary projects this would generate less than 25 peak hour trips. On average, during peak hour conditions, this would be only one additional car every 2.4 minutes.

Therefore, the addition of 200 ADT, in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and therefore would not constitute a

Level Of Servic e Computation Report
2000 HCM Operations Metho d (Future Volume Alt ernative)

Intersection #1 M ission Rd & Pico Ave

Cycle (sec): 105 Critical Vol./Cap .(X): 0.584
Loss Time (sec): 16 Average Delay (se c/veh): 17.0
Optimal Cycle: OP TIMIZED Level Of Service: B

Street Name:	Pico Avenue									Mission Road								
Approach:	No rth Bound			South Bound			East Bou nd			West Bound								
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R						
Control:	Sp lit Phase			Split Phase			Protect ed			Protected								
Rights:	Include			In clude			Inclu de			Include								
Min. Green:	5	5	5	5	5	5	5	5	5	5	5	5						
Y+R:	4.0	4.0	4.0	4.0	4 .0	4.0	4.0	4.0	4.0	4.0	4.0	4. 0						
Lanes:	0	0 1! 0	0	0	1	0 1	0	1 0	0	1	0 2	0 1						
Volume Module:																		
Base Vol:	1	5	3	41	13	60	3	743	46	7	201	2						
Growth Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00						
Initial Bse:	1	5	3	41	13	60	3	743	46	7	201	2						
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0						
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0						
Initial Fut:	1	5	3	41	13	60	3	743	46	7	201	2						
User Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00						
PHF Adj:	0.95	0.95	0.95	0.95	0. 95	0.95	0.95	0.95	0.95	0.95	0.95	0. 95						
PHF Volume:	1	5	3	43	14	63	3	782	48	7	212	2						
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0						
Reduced Vol:	1	5	3	43	14	63	3	782	48	7	212	2						
PCE Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00						
MLF Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00						
FinalVolume:	1	5	3	43	1 4	63	3	782	48	7	212	2						
Saturation Flow M odule:																		
Sat/Lane:	1900	1900	1900	1900	19 00	1900	1900	1900	1900	1900	1900	19 00						
Adjustment:	0.93	0.93	0.92	0.84	0.8 4	0.83	0.93	0.97	0.97	0.93	0.93	0.8 0						
Lanes:	0.11	0.55	0.34	0.76	0. 24	1.00	1.00	0.94	0.06	1.00	2.00	1. 00						
Final Sat.:	196	979	587	1215	3 85	1582	1769	1738	108	1769	3538	15 15						
Capacity Analysis Module:																		
Vol/Sat:	0.01	0.01	0.01	0.04	0. 04	0.04	0.00	0.45	0.45	0.00	0.06	0. 00						
Crit Moves:	****				** **			****		****								
Green/Cycle:	0.05	0.05	0.05	0.06	0.0 6	0.06	0.33	0.69	0.69	0.05	0.41	0.4 1						
Volume/Cap:	0.11	0.11	0.11	0.58	0. 58	0.65	0.01	0.65	0.65	0.09	0.15	0. 00						
Uniform Del:	47.9	47.9	47.9	48.0	48 .0	48.2	23.8	9.1	9.1	47.8	19.4	18 .2						
IncremntDel:	0.6	0.6	0.6	4.1	4. 1	8.0	0.0	1.2	1.2	0.5	0.0	0. 0						
InitQueuDel:	0.0	0.0	0.0	0.0	0 .0	0.0	0.0	0.0	0.0	0.0	0.0	0 .0						
Delay Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00						
Delay/Veh:	48.5	48.5	48.5	52.1	52 .1	56.2	23.8	10.3	10.3	48.3	19.4	18. 2						
User DelAdj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00						
AdjDel/Veh:	48.5	48.5	48.5	52.1	52 .1	56.2	23.8	10.3	10.3	48.3	19.4	18 .2						
LOS by Move:	D	D	D	D	D	E	C	B	B	D	B	B						
HCM2k95thQ:	1	1	1	6	6	7	0	27	27	1	4	0						

Level Of Servic e Computation Report
2000 H CM Unsignalized Meth od (Future Volume Al ternative)

Intersection #2 S andia Creek Dr & De Luz Rd

Average Delay (se c/veh): 2.8 Worst Case Level Of Service: A[9.8]

Street Name:	De Luz Road									Sand ia Creek Drive								
Approach:	No rth Bound			South Bound			East Bo und			West Bound								
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R						
Control:	Un controlled			Uncon trolled			Stop Si gn			Stop Sign								
Rights:	Include			In clude			Inclu de			Include								
Lanes:	0	0 0 1 0		0	1	0 0 0	0	0 0 0 0		0	0 1! 0 0							
Volume Module:																		
Base Vol:	0	40	38	1	75	0	0	0	0	61	0	1						
Growth Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00						
Initial Bse:	0	40	38	1	75	0	0	0	0	61	0	1						
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0						
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0						
Initial Fut:	0	40	38	1	75	0	0	0	0	61	0	1						
User Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00						
PHF Adj:	0.95	0.95	0.95	0.95	0. 95	0.95	0.95	0.95	0.95	0.95	0.95	0. 95						
PHF Volume:	0	42	40	1	79	0	0	0	0	64	0	1						
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0						
FinalVolume:	0	42	40	1	79	0	0	0	0	64	0	1						
Critical Gap Modu le:																		
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xx xx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6 .2						
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xx xx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3 .3						
Capacity Module:																		
Cnflict Vol:	xxxx	xxxx	xxxxx	92	xx xx	xxxxx	xxxx	xxxx	xxxxx	163	163	82						
Potent Cap.:	xxxx	xxxx	xxxxx	1503	xx xx	xxxxx	xxxx	xxxx	xxxxx	828	729	9 78						
Move Cap.:	xxxx	xxxx	xxxxx	1490	xx xx	xxxxx	xxxx	xxxx	xxxxx	813	717	9 61						
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xx xx	xxxx	xxxx	xxxx	xxxx	0.08	0.00	0. 00						
Level Of Service M odule:																		
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xx xx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxx xx						
Control Del:	xxxxx	xxxx	xxxxx	7.4	xx xx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxx xx						
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*						
Movement:	LT -	LTR -	RT	LT -	L TR -	RT	LT -	LTR -	RT	LT -	LTR -	R T						
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xx xx	xxxxx	xxxx	xxxx	xxxxx	xxxx	815	xxx xx						
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xx xx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxx xx						
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.4	xxx x	xxxxx	xxxxx	xxxx	x xxxx	xxxxx	9.8	xxxx x						
Shared LOS:	*	*	*	A	*	*	*	*	*	*	A	*						
ApproachDel:	x xxxxx			xxxx xx			xxxxxx				9.8							
ApproachLOS:	*			*			*				A							

Note: Queue repor ted is the number of cars per lane.

Level Of Servic e Computation Report
2000 HCM Operations Metho d (Future Volume Alt ernative)

Intersection #1 M ission Rd & Pico Ave

Cycle (sec): 90 Critical Vol./Cap .(X): 0.452
Loss Time (sec): 16 Average Delay (se c/veh): 14.3
Optimal Cycle: OP TIMIZED Level Of Service: B

Street Name:	Pico Avenue						Mission Road					
Approach:	No rth Bound			South Bound			East Bou nd			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Sp lit Phase			Split Phase			Protect ed			Protected		
Rights:	Include			In clude			Inclu de			Include		
Min. Green:	5	5	5	5	5	5	5	5	5	5	5	5
Y+R:	4.0	4.0	4.0	4.0	4 .0	4.0	4.0	4.0	4.0	4.0	4.0	4. 0
Lanes:	0 0	1! 0	0	0 1	0 1	0	1 0	0 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	3	10	6	44	13	31	14	578	3	5	351	8 7
Growth Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00
Initial Bse:	3	10	6	44	13	31	14	578	3	5	351	87
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	10	6	44	13	31	14	578	3	5	351	87
User Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00
PHF Adj:	0.95	0.95	0.95	0.95	0. 95	0.95	0.95	0.95	0.95	0.95	0.95	0. 95
PHF Volume:	3	11	6	46	14	33	15	608	3	5	369	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	11	6	46	14	33	15	608	3	5	369	92
PCE Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00
MLF Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00
FinalVolume:	3	11	6	46	1 4	33	15	608	3	5	369	9 2
Saturation Flow M odule:												
Sat/Lane:	1900	1900	1900	1900	19 00	1900	1900	1900	1900	1900	1900	19 00
Adjustment:	0.93	0.93	0.92	0.86	0.8 6	0.86	0.93	0.98	0.98	0.93	0.93	0.8 0
Lanes:	0.16	0.52	0.32	1.00	0. 29	0.71	1.00	0.99	0.01	1.00	2.00	1. 00
Final Sat.:	278	928	557	1631	4 82	1149	1769	1851	10	1769	3538	15 25
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.03	0. 03	0.03	0.01	0.33	0.33	0.00	0.10	0. 06
Crit Moves:	****				** **			****		****		
Green/Cycle:	0.06	0.06	0.06	0.06	0.0 6	0.06	0.25	0.65	0.65	0.06	0.46	0.4 6
Volume/Cap:	0.20	0.20	0.20	0.50	0. 50	0.50	0.03	0.50	0.50	0.05	0.23	0. 13
Uniform Del:	40.6	40.6	40.6	41.2	41 .2	41.2	25.8	8.0	8.0	40.3	14.5	13 .8
IncremntDel:	1.0	1.0	1.0	2.2	2. 2	2.2	0.0	0.3	0.3	0.2	0.1	0. 1
InitQueuDel:	0.0	0.0	0.0	0.0	0 .0	0.0	0.0	0.0	0.0	0.0	0.0	0 .0
Delay Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00
Delay/Veh:	41.6	41.6	41.6	43.4	43 .4	43.4	25.8	8.3	8.3	40.5	14.5	13. 9
User DelAdj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00
AdjDel/Veh:	41.6	41.6	41.6	43.4	43 .4	43.4	25.8	8.3	8.3	40.5	14.5	13 .9
LOS by Move:	D	D	D	D	D	D	C	A	A	D	B	B
HCM2k95thQ:	2	2	2	4	4	4	1	17	17	0	6	3

Level Of Servic e Computation Report
2000 H CM Unsignalized Meth od (Future Volume Al ternative)

Intersection #2 S andia Creek Dr & De Luz Rd

Average Delay (se c/veh): 1.8 Worst Case Level Of Service: B[10.0]

Street Name:	De Luz Road						Sand ia Creek Drive					
Approach:	No rth Bound			South Bound			East Bo und			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Un controlled			Uncon trolled			Stop Si gn			Stop Sign		
Rights:	Include			In clude			Inclu de			Include		
Lanes:	0 0	0 1	0	0 0	1 0	0	0 0	0 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	0	57	103	0	69	0	0	0	0	49	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00
Initial Bse:	0	57	103	0	69	0	0	0	0	49	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	57	103	0	69	0	0	0	0	49	0	2
User Adj:	1.00	1.00	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1. 00
PHF Adj:	0.95	0.95	0.95	0.95	0. 95	0.95	0.95	0.95	0.95	0.95	0.95	0. 95
PHF Volume:	0	60	108	0	73	0	0	0	0	52	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	60	108	0	73	0	0	0	0	52	0	2
Critical Gap Modu le:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xx xx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6 .2
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xx xx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3 .3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xx xx	xxxxx	xxxx	xxxx	xxxxx	207	207	1 34
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xx xx	xxxxx	xxxx	xxxx	xxxxx	782	690	9 15
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xx xx	xxxxx	xxxx	xxxx	xxxxx	769	678	9 00
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xx xx	xxxx	xxxx	xxxx	xxxx	0.07	0.00	0. 00
Level Of Service M odule:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xx xx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxx xx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xx xx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxx xx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	L TR -	RT	LT -	LTR -	RT	LT -	LTR -	R T
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xx xx	xxxxx	xxxx	xxxx	xxxxx	xxxx	773	xxx xx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xx xx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxx xx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxx x	xxxxx	xxxxx	xxxx	x xxxx	xxxxx	10.0	xxxx x
Shared LOS:	*	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	x	xxxxx		xxxx	xx		xxxxxx				10.0	
ApproachLOS:		*			*			*			B	

Note: Queue repor ted is the number of cars per lane.

4/8

In summary, under extremely congested LOS F conditions, small changes and disruptions to the traffic flow can significantly affect traffic operations and additional project traffic can increase the likelihood or frequency of these events. Therefore, the LOS F ADT significance criteria was set at 100 ADT (50% of the LOS E criterion) to provide a higher level of assurance that the traffic allowed under the criterion would not significantly impact traffic operation on the road segment.

Non-Circulation Element Residential Streets

Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots and not to carry through traffic, however, for projects that will substantially increase traffic volumes on residential streets, a comparison of the traffic volumes on the residential streets with the recommended design capacity must be provided. Recommended design capacities for residential non-Circulation Element streets are provided in the San Diego County Public and Private Road Standards. Traffic volume that exceeds the design capacity on residential streets may impact residences and should be analyzed on a case-by-case basis.

4.2 Intersections

This section provides guidance for evaluating adverse environmental effects a project may have on signalized and unsignalized intersections. Table 2 summarizes significant project impacts for signalized and unsignalized intersections.

Table 2
Measures of Significant Project Impacts to Congestion on Intersections:
Allowable Increases on Congested Intersections

Level of Service	Signalized	Unsignalized
LOS E	Delay of 2 seconds or less	20 or less peak hour trips on a critical movement
LOS F	Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement	5 or less peak hour trips on a critical movement

Notes:

1. A critical movement is an intersection movement (right turn, left turn, through-movement) that experiences excessive queues, which typically operate at LOS F. Also if a project adds significant volume to a minor roadway approach, a gap study should be provided that details the headways between vehicles on the major roadway.
2. By adding proposed project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project is responsible for mitigating its share of the cumulative impact.
3. The County may also determine impacts have occurred on roads even when a project's direct or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.
4. For determining significance at signalized intersections with LOS F conditions, the analysis must evaluate both the delay and the number of trips on a critical movement, exceedance of either criteria result in a significant impact.

FEDERHART AND ASSOCIATES
Engineering and Traffic Survey
Summary

Street: DE LUZ ROAD W/B
Limits: HARRIS TRAIL
*

Field Observer: BCY
Checked By:
Date: 1/11/2008

Factors	Direction: West	
A. Prevailing Speed Data		
Location of Survey		
85th Percentile	27.2	
10 mph Pace	23 - 32	
Percent in Pace	100.0%	
Posted Speed Limit	25	
B. Collision History		
Date Range Covered	To	( )
Total Collisions		
Collision Rate (Acc/MVM)		
Expected Collision Rate		
C. Traffic Factors		
Average Daily Traffic		
Length of Segment		
Lane Configuration	Single Lane Each Direction	
Street Classifaction	Collector	
D. Conditions Not Readily Apparent		
Conditions		
Roadway Geometrics	Horizontal Curve	
Comments		
E. Adjacent Land Use	RURAL	
Posted Speed Limit	25	
Speed Limit Change?		
Revised Speed Limit		

Approved and Authorized for release by :

James W. Federhart 3/20/08
Date

Loc. #

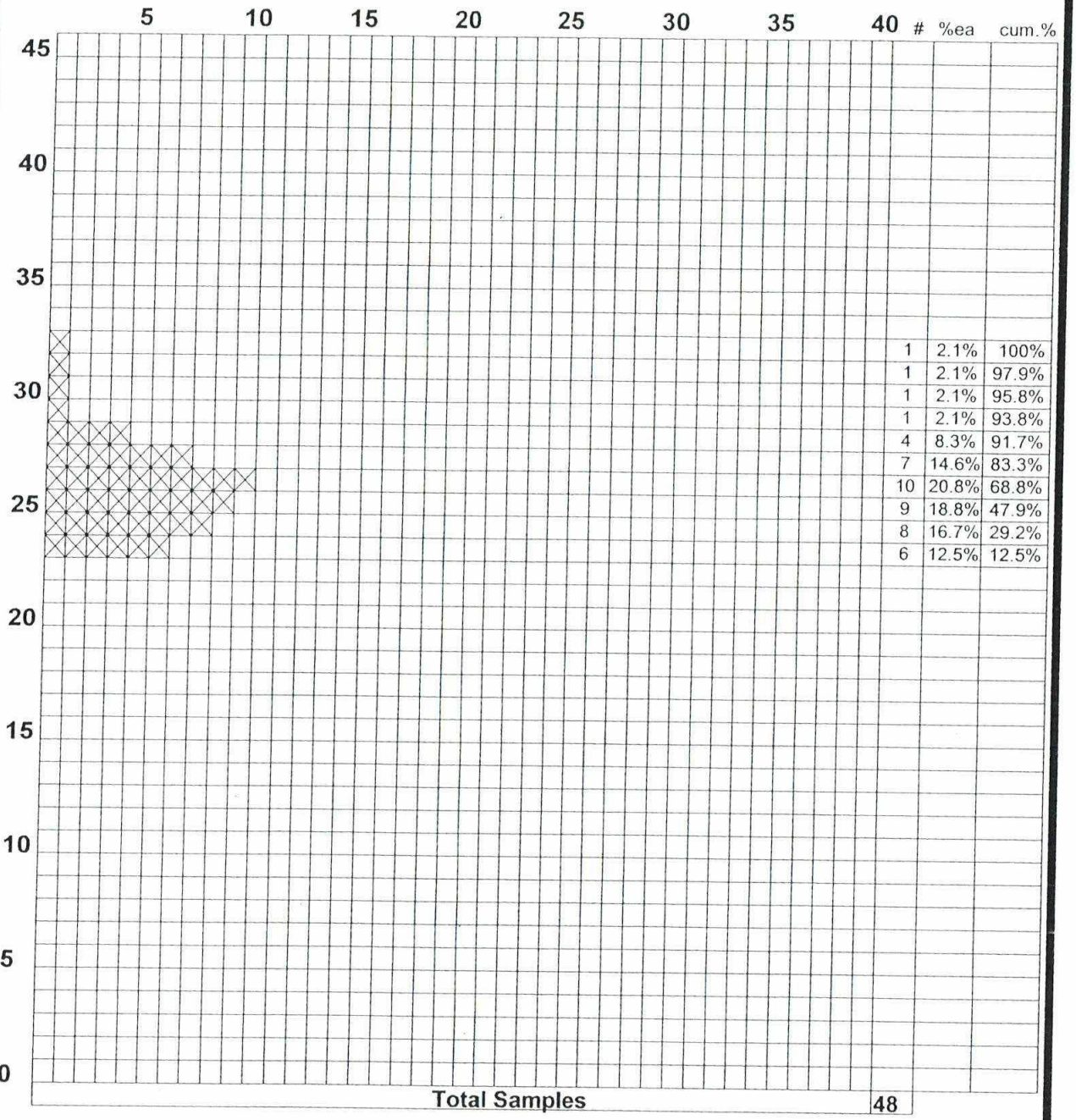
A21

FEDERHART AND ASSOCIATES

Street Name: DE LUZ ROAD W/B
Limits: HARRIS TRAIL to *

Radar Survey Sheet

X=West /=East



#	%ea	cum.%
1	2.1%	100%
1	2.1%	97.9%
1	2.1%	95.8%
1	2.1%	93.8%
4	8.3%	91.7%
7	14.6%	83.3%
10	20.8%	68.8%
9	18.8%	47.9%
8	16.7%	29.2%
6	12.5%	12.5%
Total Samples	48	

85th Percentile Speed:	27.2
50th Percentile Speed:	25.1
15th Percentile Speed:	23.5
10 MPH Pace:	23- 32
Number in Pace:	48
Percent in Pace:	00.0%

Date of Survey:	1/11/2008	Start Time:	14:00
Weather:	Clear	End Time:	15:00
Road Condition:	Good	Posted Speed:	25
Street Class.:	Collector	Observer:	BCY
Conditions not Apparent:			

FEDERHART AND ASSOCIATES
Engineering and Traffic Survey
Summary

Street: DE LUZ ROAD E/B
Limits: HARRIS TRAIL
*

Field Observer: BCY
Checked By:
Date: 1/11/2008

Factors	Direction: East		
A. Prevailing Speed Data			
Location of Survey			
85th Percentile	30.7		
10 mph Pace	27 - 36		
Percent in Pace	100.0%		
Posted Speed Limit	25		
B. Collision History			
Date Range Covered	To	( )	
Total Collisions			
Collision Rate (Acc/MVM)			
Expected Collision Rate			
C. Traffic Factors			
Average Daily Traffic			
Length of Segment			
Lane Configuration	Single Lane Each Direction		
Street Classifaction	Collector		
D. Conditions Not Readily Apparent			
Conditions			
Roadway Geometrics	No Sidewalk		
Comments			
E. Adjacent Land Use	RURAL		
Posted Speed Limit	25		
Speed Limit Change?			
Revised Speed Limit			

Approved and Authorized for release by :

James W. Federhart — 3/20/08 (Date)

Loc. #

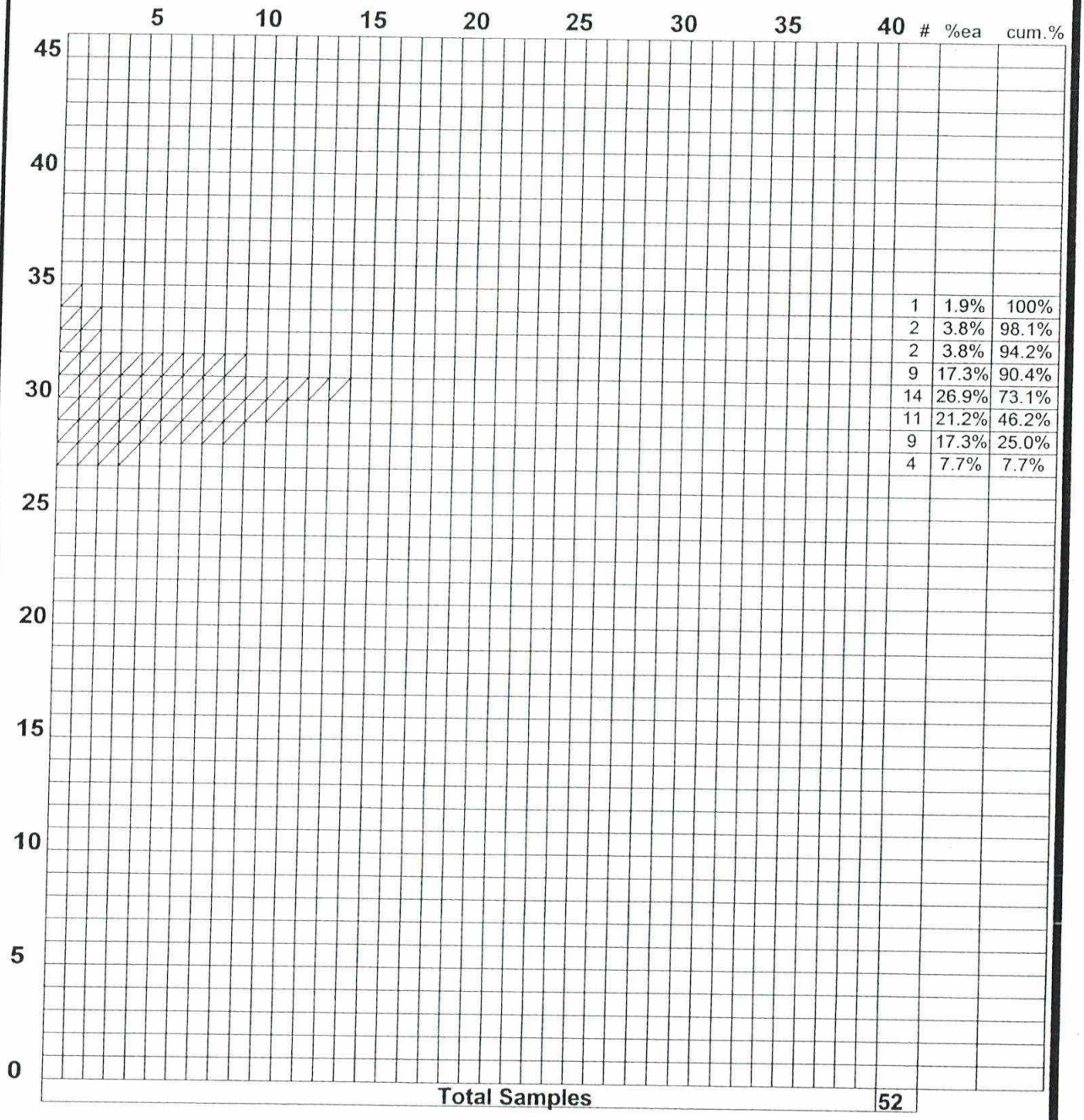
A23

FEDERHART AND ASSOCIATES

Street Name: DE LUZ ROAD E/B
Limits: HARRIS TRAIL to *

Radar Survey Sheet

X=West /=East



#	%ea	cum.%
1	1.9%	100%
2	3.8%	98.1%
2	3.8%	94.2%
9	17.3%	90.4%
14	26.9%	73.1%
11	21.2%	46.2%
9	17.3%	25.0%
4	7.7%	7.7%

85th Percentile Speed:	30.9
50th Percentile Speed:	29.1
15th Percentile Speed:	27.6
10 MPH Pace:	27- 36
Number in Pace:	52
Percent in Pace:	00.0%

Date of Survey:	1/11/2008	Start Time:	14:00
Weather:	Clear	End Time:	15:00
Road Condition:	Good	Posted Speed:	25
Street Class.:	Collector	Observer:	BCY
Conditions not Apparent:			

CHAPTER 200
GEOMETRIC DESIGN AND STRUCTURE STANDARDS

Topic 201 - Sight Distance

Index 201.1 - General

Sight distance is the continuous length of highway ahead visible to the driver. Four types of sight distance are considered here: passing, stopping, decision, and corner. Passing sight distance is used where use of an opposing lane can provide passing opportunities (see Index 201.2). Stopping sight distance is the minimum sight distance to be provided on multilane highways and on 2-lane roads when passing sight distance is not economically obtainable. Stopping sight distance also is to be provided for all elements of interchanges and intersections at grade, including private road connections (see Topic 504, Index 405.1, & Figure 405.7). Decision sight distance is used at major decision points (see Indexes 201.7 and 504.2). Corner sight distance is used at intersections (see Index 405.1, Figure 405.7, and Figure 504.3J).

Table 201.1 shows the standards for stopping sight distance related to design speed, and these shall be the minimum values used in design. Also shown are the values for use in providing passing sight distance.

Chapter 3 of "A Policy on Geometric Design of Highways and Streets," AASHTO, contains a thorough discussion of the derivation of stopping sight distance.

201.2 Passing Sight Distance

Passing sight distance is the minimum sight distance required for the driver of one vehicle to pass another vehicle safely and comfortably. Passing must be accomplished assuming an oncoming vehicle comes into view and maintains the design speed, without reduction, after the overtaking maneuver is started.

Table 201.1
Sight Distance Standards

Design Speed[1] (mph)	Stopping[2] (ft)	Passing (ft)
20	125	800
25	150	950
30	200	1,100
35	250	1,300
40	300	1,500
45	360	1,650
50	430	1,800
55	500	1,950
60	580	2,100
65	660	2,300
70	750	2,500
75	840	2,600
80	930	2,700

(1) See Topic 101 for selection of design speed.
(2) For sustained downgrades, refer to advisory standard in Index 201.3

The sight distance available for passing at any place is the longest distance at which a driver whose eyes are 3 feet ½ inch above the pavement surface can see the top of an object 4 feet ¼ inch high on the road. See Table 201.1 for the calculated values that are associated with various design speeds.

In general, 2-lane highways should be designed to provide for passing where possible, especially those routes with high volumes of trucks or recreational vehicles. Passing should be done on tangent horizontal alignments with constant grades or a slight sag vertical curve. Not only are drivers reluctant to pass on a long crest vertical curve, but it is impracticable to design crest vertical curves to provide for passing sight distance because of high cost where crest cuts are involved. Passing sight distance for crest vertical curves is 7 to 17 times longer than the stopping sight distance.

Ordinarily, passing sight distance is provided at locations where combinations of alignment and

FEDERHART AND ASSOCIATES
Engineering and Traffic Survey
Summary

Street: HARRIS TRAIL N/B
Limits: @ 3411 D/W MAIN GATE (CONQUISTADOR)

Field Observer: BCY
Checked By:
Date: 1/11/2008

Factors	Direction: North	
A. Prevailing Speed Data		
Location of Survey		
85th Percentile	17.5	
10 mph Pace	15 - 24	
Percent in Pace	100.0%	
Posted Speed Limit		
B. Collision History		
Date Range Covered	To	( )
Total Collisions		
Collision Rate (Acc/MVM)		
Expected Collision Rate		
C. Traffic Factors		
Average Daily Traffic		
Length of Segment		
Lane Configuration	Single Lane Each Direction	
Street Classifaction	Collector	
D. Conditions Not Readily Apparent		
Conditions		
Roadway Geometrics	No shoulder	
Comments		
E. Adjacent Land Use	RURAL	
Posted Speed Limit		
Speed Limit Change?		
Revised Speed Limit		

Approved and Authorized for release by :

James W. Federhart — 3/20/08 (Date)

Loc. #

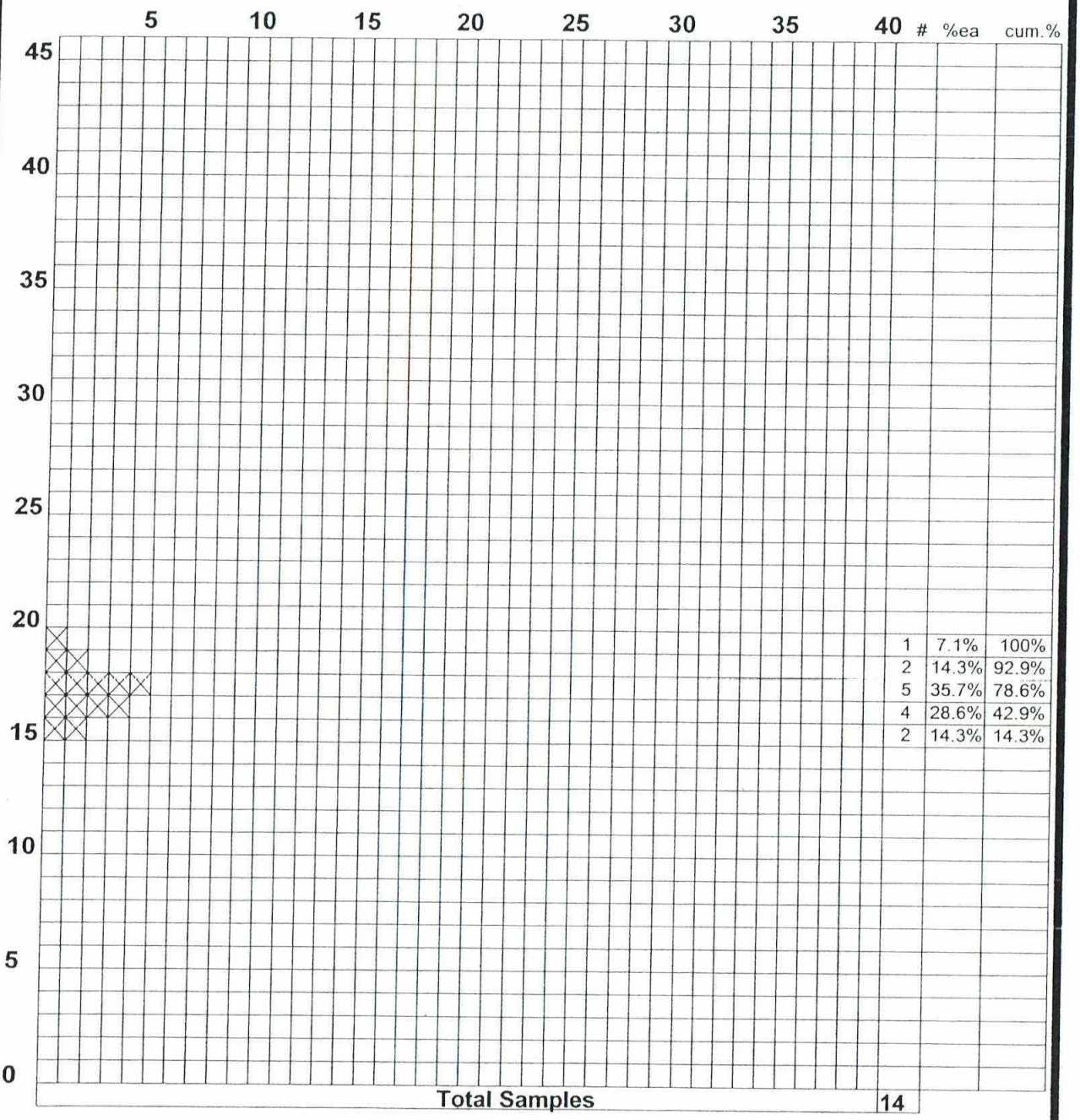
A27

FEDERHART AND ASSOCIATES

Street Name: HARRIS TRAIL N/B
Limits: @ 3411 D/W to *

Radar Survey Sheet

X=North /=South



#	%ea	cum.%
1	7.1%	100%
2	14.3%	92.9%
5	35.7%	78.6%
4	28.6%	42.9%
2	14.3%	14.3%

85th Percentile Speed:	17.9
50th Percentile Speed:	16.6
15th Percentile Speed:	15.4
10 MPH Pace:	15- 24
Number in Pace:	14
Percent in Pace:	00.0%

Date of Survey:	1/11/2008	Start Time:	15:15
Weather:	Clear	End Time:	16:15
Road Condition:	Good	Posted Speed:	
Street Class.:	Collector	Observer:	BCY
Conditions not Apparent:			

FEDERHART AND ASSOCIATES
Engineering and Traffic Survey
Summary

Street: HARRIS TRAIL S/B
Limits: @ 3411 D/W MAIN GATE (CONQUISTADOR)
*

Field Observer: BCY
Checked By:
Date: 1/11/2008

Factors	Direction: South	
A. Prevailing Speed Data		
Location of Survey		
85th Percentile	17.0	
10 mph Pace	15 - 24	
Percent in Pace	100.0%	
Posted Speed Limit		
B. Collision History		
Date Range Covered	To	( )
Total Collisions		
Collision Rate (Acc/MVM)		
Expected Collision Rate		
C. Traffic Factors		
Average Daily Traffic		
Length of Segment		
Lane Configuration	Single Lane Each Direction	
Street Classifaction	Collector	
D. Conditions Not Readily Apparent		
Conditions		
Roadway Geometrics	No shoulder	
Comments		
E. Adjacent Land Use	RURAL	
Posted Speed Limit		
Speed Limit Change?		
Revised Speed Limit		

Approved and Authorized for release by :

James W. Federhart — 3/20/08 (Date)

Loc. #

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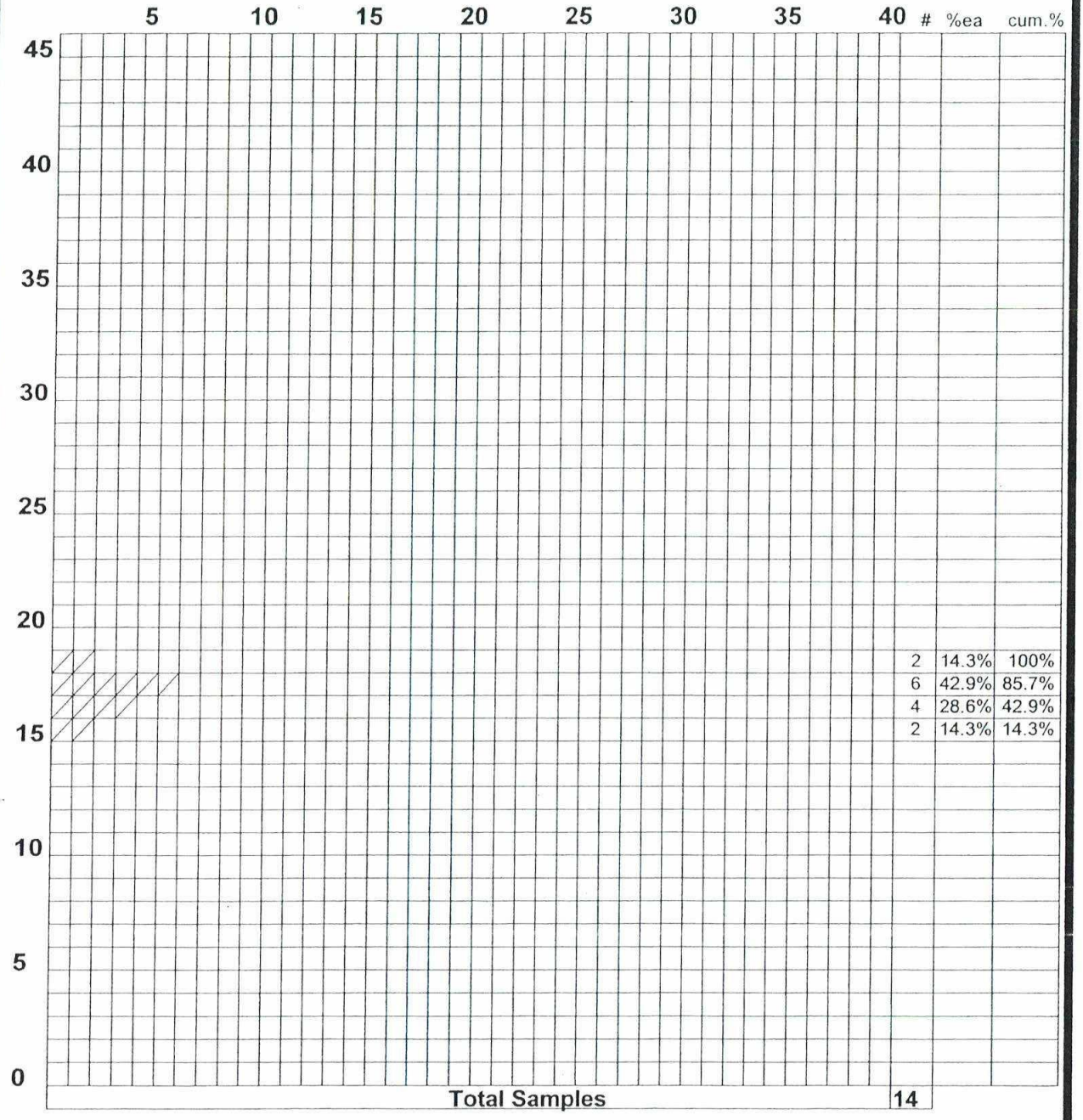
FEDERHART AND ASSOCIATES

Street Name: HARRIS TRAIL S/B
Limits: @ 3411 D/W to *

Radar Survey Sheet

X=North /=South



#	%ea	cum.%
2	14.3%	100%
6	42.9%	85.7%
4	28.6%	42.9%
2	14.3%	14.3%
Total Samples 14		

85th Percentile Speed:	17.9
50th Percentile Speed:	16.6
15th Percentile Speed:	15.4
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Conditions not Apparent:			

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